

Framework Training Plan

swiss aquatics swimming

Foreword

Dear swimming friends,

With this document, I am pleased to provide you with our Swiss Aquatics Swimming Framework Training Plan (FTP) for the next two Olympic cycles until 2028. The elaboration was carried out primarily in a Swiss Aquatics Swimming core team, so I would like to thank my colleagues Nadine Bronner-Grandjean, David Burkhardt and Dr. Dennis Born for their cooperation and support. In addition, we were supported by numerous club coaches and external experts, especially from the federation's coach council, from the training science department of the Federal Office of Sport and from the federation support of Swiss Olympic. The translation into French was done by Ralph Schallon and the English translation was done by Elena Meisser. The layout was created by WORX Design GmbH. I would also like to thank them all very much. I hope the document will be actively used and provides a support for each reader.

I wish every user a lot of success!

Markus Buck Head of Elite Sport Swimming

THE IDEA BEHIND IT

The Swiss Aquatics Swimming FTP 2020–2028 is deliberately not a pages-long continuous text document. It is a compact, concise, understandable, useful and helpful tool for coaches, swimming school teachers, athletes, parents, officials, partners and sponsors. In terms of format, it is similar to a so-called "Playbook" from American football. Only a few pages are bound together. So that the document is always available at the pool edge!

The FTP provides a first basic orientation and is a quick reference guide. It is not an in-depth specialist literature – anyone who needs detailed information on specific topics cannot avoid studying scientific literature! Therefore, the most relevant works and helpful links are listed in the FTP.

The document supports coach education and provides a common thread. It does not replace the previous teaching and learning materials. The FTP replaces neither coach education, literature studies nor internships or even constant further education through training courses and the expert exchange!

THE PHILOSOPHY OF THE FTP

The FTP is based on the FTEM Switzerland framework concept and brings together several classic Long Term Athlete Development concepts from successful nations (USA, CAN, NED, DEN, GER, ESP, BEL) in a new holistic approach.

Holistic in the sense that all players, institutions, partners and sponsors are integrated with their roles, tasks and challenges and so it becomes clear when, where and how the interaction and cooperation must take place! Of course, this should optimize the collaboration and increase efficiency and thus sporting success!

The FTP is a combination of presenting the current situation and projecting the desired ideal state! Contrary to the original FTEM concept from Australia, the FTP is embedded in an age-group structure. This is simply due to the reality of the school and competition system – that means: in our sport, the calendar age of an athlete cannot be ignored! At least as important is the gender-specific distinction in aspects that are affected by the different developmental biology!

HOW TO UNDERSTAND THE FTP

The columns represent the FTEM phases – for understanding: The phases are based on the sports development level of the athlete, that is fundamentally independent of the calendar age and is determined by the level of biological development, individual prerequisites, training history, external conditions, etc. Nevertheless, in our FTP, it is shown linked to age groups that correlate on the statistical mean. Due to biological development, the calendar age at which a corresponding FTEM phase is reached can deviate from the shown mean by up to 4 years. However, this cannot be presented graphically in the selected form of representation.

The lines contain the various FTP topics – for understanding: Depending on whether the gender-specific biological development makes a significant difference, there are separate representations for men and women, or just the common representation. "Gender-specific" information is highlighted with the corresponding gender color. In the case of the rough training indicators, "recommended minimum values" and "possible maximum volumes" were deliberately presented as a range. Basically, we are convinced that the necessary – determined by the international performance development – improvement rate of an athlete per season and over several years should always be achieved with the minimum necessary training effort. "Minimal training effort required" implements optimal use of the sensitive phases of trainability to generate the basics for a long-term and successful career. So that the athlete has as long and as many development reserves as possible in order to increase the likelihood of being able to reach the top of the world! Of course, this is a constant process of trial and error and, depending on the athlete, may result in a linear training progression, or in a more volatile one.

There are nations in which the "possible maximum volumes" are realized as shown. Such volumes should only be provided if the athlete has the relevant prerequisites and can actually cope with these high loads. In addition, we want to clarify with the representation in the FTP what it means in terms of training volume to take this path – a long-term performance progression requires a long-term load progression! This must be guaranteed if this path is taken. The training indicators are based on training for medium distances (200–400 m) and should be adjusted by varying the proportions of the individual training areas, for short (50–100 m) and/or long distances (800 m and longer).

Understandably, regional or local peculiarities could not be addressed. This FTP is and remains a schematic representation with all the associated advantages and disadvantages!

It is therefore up to the coaches and officials to adapt and break the Swiss Aquatics Swimming Framework Training Plan down, in the regions and clubs, to the local conditions.

In the end, the choice of strategy, methods and means is always up to the coach and the athlete!

| FTEM | | | FOUNDATION | | | | | | | | т | ALENT | | | | ELITE | | | MASTERY | | |
|----------|----------------|---|--|-------------------|--------------------|-----------------------------|-------------------------|--------------------|--|---|-----------------------|--|------------------------|-----------------------|-----------------------|--|----------------------------------|---|----------------------------------|--|--|
| Phase | Phase | | F1a > F1b | | F2 | F | 3 | , | n | | т2 | | тз | 1 | 14 | E1 | | E2 | м | | |
| Descript | tion | | Discover, acquire and basic movements | App vary mo | ly and ovements | Sport-specific and/or co | engagement mpetition | Demonstra | te potential | Confirm | n potential | Train and a | achieve goals | Breakthr be rev | ough and varded | Represent Switzerland (international) | | Represent Switzerland Have international (international) success | | | |
| Years of | training | | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 1 | 3 | 14 15 | 16+ | | |
| Calenda | ir age | | From 3 to 6 | From 4 to 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19+ | | | | | |
| | 0 ⁷ | | | | | | Prepu | uberty | | Pu | iberty | | | | | Adolescence | | | | | |
| | бð | Growth phase | PRESCHOOL AGE | | | PRIMARY | SCHOOL AGE | | | SEC | CONDARY SCHOOL | AGE | | HIGH SCHO | DOL AGE | COLLEGE AGE | | | | | |
| | Q | | | | | Prepu | iberty | | Pu | berty | | | Adolescence | | | | | | | | |
| | | Categories | | | | Kids | | | Age | Groups | | Yo | outh | Jur | niors | | Elite | | | | |
| | ð | Licenses | | | | Kids | | | Age Groups + Youth | | | | | | | Junior | s + Elite | | | | |
| Σ | 0 | | | | | | | | | | JRC/Junior | Cup/JCC/JSC | R | | | Regional championships, | | | | | |
| STE | | Goal competitions | | | | | | | | | | EYOF/alt. comp | . (~ every 2 years) | YOG 15–18 year | s (every 4 years) | | | | | | |
| N S/ | -7 - | Swiss Aquatics – | "Learn to Swir | m" | Kids League 8 | Kids League 9 | Kids League 10 | Futura 11 | Futura 12 | Futura 13 | | | JEC () | yearly) | | OG (every 4 ye | ears)/WC/EC/ | /SCWC/SCEC (every 2 y | ears each)/CISM | | |
| Ĕ | σç | Swimming programs | "Basic" "Advanced" | | | "Specific" | | Futura 11 | Futura 12 | | | JEC (| (yearly) | | | | | | | | |
| MPE | | - | | | | | | | EYOF/alt. comp. (~ every 2 years) YOG 15-18 years (every 4 years) OG (every 4 years)/WC/EC/SCWC/SCEC | | | | | | | CEC (every 2 years each |)/CISM | | | | |
| ē | 0 | Goal competitions | | | | | | | JRC/Junior Cup/JCC/JSC | | | | | | Regional c | hampionships/SCSC/SC | /CC/SC sumr | imer | | | |
| | Ŷ | Licenses | | | | Kids | | | <u> </u> | Age Groups + Yo | uth | | | | | Juniors + Flite | | | | | |
| | | Categories Vide | | | | | | Age Groups | | You | uth | Jun | iors | | | Flite | | | | | |
| | | | | | | | | | | | 1 | NV | VE basis | | | | | | | | |
| | | | | | | | | 1 | | | | | | | | National Perfo | rmance Cen | nter | | | |
| | бð | Sponsorships | Swimming scho | ools | | | | | | | | | Nation | al competence ce | inters of the regio | ne | initiance cen | | | | |
| | | | | | | | | J | | | | Clubs | | | | | | | | | |
| - | | | | | | | | | | | | Degional | lunior Toom | Club | | Degion | al Elito Toom | (RECIONAL Card up to) | 10 veges) | | |
| | | Swiss Aquatics – Swimming promotion squads | | | | | | | | | | National | | National | Teom 110 | Region | National Fli | lite Team (Olympic Team | is years) | | |
| | | 51 1 | | | | | | | DICTE | T DECIONAL |) Dublic and asi | National | i leam 016 | National | Team UI8 | | | inte ream/Olympic ream | | | |
| ONS | ് | SOA (Talent) Cards | | | | | | | PISTE -> | REGIONAL | → Public and priv | vate sports school | is, training compani | es, sports authoriti | les of communities | and cantons | | | | | |
| 5 | | Funding institutions and | | | | | | | | LOCAL | • | NATIONAL | →+ Swiss Sports | S AId Foundation sp | onsorsnip, Swiss C | Diympic career consultat | ion | | 1 1 11 | | |
| NSTI | | programs | | | | | | | | | | | | | 5501175 | | gn-performan | nce sport promotion in th | e army and universities | | |
| | | | | | | | | | | | | | | | BRONZE | | → GOL | \rightarrow + Swiss Sports | s Aid Foundation funding | | |
| | | Swiss Aquatics – Swimming promotion squads | | | | | | l | | | Regional . | Junior Leam | | | | Regional Elite Te | am (REGION | IAL Card up to 18 years) | | | |
| | | Swimming promotion squads | | | | | | | | | National | Team U15 | National | Team U17 | | National Elite Team, | /Olympic Tea | am | | | |
| | Ŷ | | | | | | | PISTE → | T REGIONAL | T INCLUSION $\rightarrow + \rightarrow +$ Swies Sports Aid Equivalences in Continuations and Control to the Solid Control of the Soli | | | | | | | | | | | |
| | | Funding institutions and | | | | | | | | | T NATIONAL | \rightarrow + \rightarrow + Swiss Sports Aid Foundation sponsorship, Swiss Oly | | | Swiss Olympic care | er consultation | | | | | |
| | | programs | | | | | | | | | | | | | ELITE | \rightarrow + High-performance | sport promot | tion in the army and univ | ersities | | |
| | | | | | | | | | | | | | _ | BRONZE | → SILVER | → GOLD | →+ Swi | iss Sports Aid Foundation | n funding | | |
| | | | Swimming instructor w | ith Federal Ce | rtificate of Com | petence A/B | | Coa | ch B | Co | ach A | | | | | Co | ach Silver (B | BTL) | Coach Gold (DTL) | | |
| | | Coaches education | Kids Coach and J+S Trainer (Youth+Sport) | | | | | (+SLRG Plus Po | ol and BLS AED) | (+SLRG Plus P | ool and BLS AED) | | Coach | Bronze | | (+SLRG F | Plus Pool and | I BLS AED) | (+SLRG Plus Pool and BLS AFD) | | |
| | | | | (SERG FIGS FOO | | and BLS AED) | | | | | | | (+SLRG Plus Po | ool and BLS AED) | | | | | DES ALD) | | |
| E | ~~~ | | Inspire!!! | Fun at s | wimming | Fun at swimmi | ng competition | Fun at swi | im training | "Teach | n to train" | "Train | to train" | "Train | to race" | | "Train to win | 1″ | "Train to dominate" | | |
| COAC | ΟŲ | Coaches core tasks | Water safety and | Pacie | "Teach | echnique" | baiquo | 0 Ontir | rientate and sup | port for (dual) ca | areer training | Profes | ssionalize attitude, l | behavior and envir | onment | Increasi Ontimizo individu | ng profession | nalization | | | |
| Ŭ | | | swimming ability::: | Dasic | evelopment of | flexibility and spe | ed | Optil | Development (| of physical fitnes | s | Development o | n maiviadai techniq | ue and extension o | or priysical littless | Optimize individu | ai technique a | and physical inness | | | |
| | | | 1 · 6–10* | 1.1 | 0–12* | 1.12 | -14* | 1.12 | P_1∆* | 1.1 | 12-14* | 1.1 | 0–12* | 1.8 | -10* | 1.6-8* | 1 | 1 · 4–6* | 1 • 4-6* | | |
| | | Optimum coach-swimmer ratio | | | | | * With a maxim | Im number of par | ticipants or more | athletes a traine | ed assistant coach is | recommended f | rom 16 participants | this is mandatory | due to the I+S requ | uirements | I | | | | |
| | | | | | | | | Inspire t | ransport | Encourage | self-reflection | | | | | | | | | | |
| ENTS | ~~~ | Parents core tasks | Accompany, ins | pire, motivate, s | support positive | ly in case of setb | acks, | inspire, c | support positively | in case of setba | cks. | Enco | urage, support posi | tively in case of se | tbacks, | Confirm, support | positively in | n case of setbacks, | "Enjoy!" | | |
| PARI | ΟŲ | | 1 | transport, financ | ce – "be a role m | odel!" | | | finance – "lea | ad by example!" | | stimulate | personal responsibi | ility, finance – "get | a distance!" | delegate re | sponsibility - | - "step back!" | Lijoy: | | |
| | | | | | | | | Communities: pr | imany schools with | h sports class and | individual colutions | Swiss Olympics | | | | | | | | | |
| SS | | | Communities, cantons an | d the federal go | overnment: swin | ming and sports | infrastructure | communities: pr | mary scribbis with | Communities a | nd private provider | s: sports secondar | v schools, sports cli | asses, individual so | lutions | Universities: flexible st | udy solution | 15 | | | |
| INE | റ്റ | Partners core tasks | Kindergardens and | schools: coope | ration with swi | nming schools a | nd clubs | | | | | Cantons and priv | vate providers: spor | ts high schools an | d sports classes | Army: flexible elite sport | es and cantor ort recruit sch | ns: financial support hool and financial | Individually | | |
| PAR | - Ŧ | | | J+S: J+S Tr | rainer educatior | I | | J+S and Coache | es education.CH: S | Swimming instruc | ctor and Coaches ec | lucation | Sport-friendly ap | prenticeships (orgar | nization and school) | support | foundation - | financial current | | | |
| | | | | J+S: Spo | rts funding for c | ourses and camp | s for children (5- | -10 years) and you | uth (10–20 years) | → | | | Sporthilfe, commu | inities and cantons | : financial support | business, patrons and | iounuations: | . mancial support | | | |
| | | | Swiss Aquatics we | bsite, various w | vebsites of swim | ming schools and | d clubs, | | | | | | | | | | | | | | |
| | ~~ | Poforoncos | Cooches St | special | list literature, | Toochor's Cuid-" | , | | | | Swiss Aquatics w | vebsite, Swiss Aqu | uatics - Swimming L | LS/NW concept, Sv | viss Aquatics – Sw | imming framework train | ing plan, | | | | |
| | υų | References | Parents: S | wiss Aquatics "L | Learn to Swim – | Family Guide"/ | | | | | SWISS A | various | websites of the spo | orts offices of the c | ommunities and ca | e, BASPO/CST website, intons | | | | | |
| | | | Partners: S | Swiss Aquatics ' | "Learn to Swim | - School Guide" | | | | | | | | | | | | | | | |

| FTEM | | | | | | TAL | ENT | | | | ELITE | | | | MASTERY | | | | | |
|-------------------|----------|---|------------------------|------------------------------|----------------------------------|-------------------------------------|-----------------------|---------------------------|------------------|-----------------------|----------------------------|----------------------------|-------------------------|---------------------------------|------------------------------|---------------------------------------|-----------------------|-------------------------|---------------------|------------|
| Phase Description | | F1a > F1b Discover, acquire and basic movements | F. Apply vary mo | 2 y and vements | F Sport-specific and/or co | 3 engagement mpetition | 1 Demonstra | r1 te potential | T Confirm | 2 potential | Train and a | r 3 chieve goals | T Breakthr be rev | '4 ough and varded | E Represent S (interna | : 1 Switzerland ational) | E Have inte suc | 2 ernational cess | M Dominate sport | |
| Years of | training | | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16+ |
| Calenda | r age | | From 3 to 6 | From 4 to 7 8 9 10 | | | 11 12 13 14 | | | 15 | 16 | 16 17 18 | | | | | | | | |
| | | | PRESCHOOL AGE | | | PRIMARY S | CHOOL AGE | | | SECONDARY SCHOOL | | L AGE | | HIGH SCHOOL AGE | | | | C | OLLEGE AGE | |
| | | Growth phase | | | | | Prepu | iberty | | Pub | erty | | | | | 1 | Adolescence | | | |
| | | Biological age | | | | +/- 2 years | | +/- 3 years | | +/- 4 | years | +/- 4 | years | +/- 3 years | | +/- 2 | years | | | |
| | | Length growth/year | | | | 4–6 cm | | 4–6 cm | | 6–8 cm | | 8–12 | 2 cm | 2–4 cm | | 0 cm + | weight | | | |
| | | Coordination and technique | | Gene | eral coordinative | skills | | | | Specific tech | nical elements | | | | | The high | est level of tech | nique | | |
| | | Motor learning ability | ** | ** | ** | *** | *** | *** | *** | *** | * | * | ** | ** | ** | ** | ** | ** | ** | ** |
| | ď | Flexibility | *** | *** | *** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| sn | 0 | Speed | * | * | ** | *** | *** | *** | *** | *** | * | * | * | * | * | * | * | * | * | * |
| | | Aerobic endurance | | | | * | ** | ** | *** | *** | *** | *** | *** | *** | ** | ** | ** | ** | ** | ** |
| | | Anaerobic endurance | | | | | | * | ** | ** | ** | ** | *** | *** | *** | *** | *** | *** | *** | *** |
| | | Maximum strength | | | | | | | | | | | ** | ** | *** | *** | *** | *** | *** | *** |
| õ | | Strength endurance | | | | | | | | | * | ** | ** | *** | *** | *** | *** | *** | *** | *** |
| BNIZ | | High-speed strength | | | * | ** | ** | ** | ** | ** | ** | ** | *** | *** | *** | *** | *** | *** | *** | *** |
| TRAIP | | Growth phase | | 1 | | Prepu | lberty | | Pub | erty | | | | 1 | | Adolesc | ence | | | |
| - | | Biological age | | | +/- 2 years | | +/- 3 years | | +/- 4 years | | +/- 4 years | | +/- 3 years | | +/- 2 years | | | | | |
| | | Length growth/year | | 4-6 | cm | 4-6 | i cm | 6-8 | 3 cm | 8–12 | 2 cm | 2-4 | 1 cm | 0 cm + | weight | | | | | |
| | | Coordination and technique | | General coord | dinative skills | | | | Specific tech | nical elements | | | | | 1 | The highest level | of technique | I | | |
| | | Motor learning ability | ** | ** | *** | *** | *** | *** | *** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | Q | Flexibility | *** | *** | *** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| | | Speed | * | ** | *** | *** | *** | *** | *** | * | * | * | * | * | * | * | * | * | * | * |
| | | Aerobic endurance | | * | ** | ** | *** | *** | *** | *** | *** | *** | *** | ** | ** | ** | ** | ** | ** | ** |
| | | Anaerobic endurance | | | | | * | ** | ** | ** | ** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| | | Maximum strength | | | | | | | | | ** | ** | *** | *** | *** | *** | *** | *** | *** | *** |
| | | Strength endurance | | | | | | | * | ** | ** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| | | High-speed strength | | * | ** | ** | ** | ** | 40 | ** | | *** | *** | *** | | *** | 40 | *** | * * * | |
| | | Training session water/week | 1-2 × 45-60' | 2× | 60' | 3-6 × 60' | | 40- | × 90' | 5-8 × 1 | 90-120' | 6-9 × 1 | 90-120' | 8-10 | × 120' | 10 × | 120' | | 43 120'+ | Individual |
| | | Training session dryland/week | 2 × 15' | 4 × 15' | | 6 × 15' | | 4× | : 20' | | 20' | 5× | : 20' | 5×2 | 0-30' | 6×2 | 0-30' | 6×20 |)-30'+ | Individual |
| | | Training session strength/week | - | | 4 ^ 15 | | - | | - | | 1 × 60' technique training | | 1-2 × 60' | | 2 × 60' | | × 60' | 2-3 × 60'+ | | Individual |
| | | Training session polysport/week | 120' general* | 180' ge | eneral* | 180' ge | eneral* | 180' ge | eneral* | 180' qe | eneral* | 180' ge | eneral* | 60' general* | + 60' fitness** | 60' general* + | + 60' fitness** | 60' general* | + 60' fitness** | Individual |
| | | Hours/week | 3 | 6 | 5 | 7.5–10.5 | | 10.5-13.5 | | 13-21.5 | | 14.5-24.5 | | 22-26 | | 26-28 | | 25-27+ | | Individual |
| | | Hours water/week | 1 | 2 | | 3-6 | | 6-9 | | 7.5–16 | | 9-18 | | 16-20 | | 20 20 | | 20 |)+ | Individual |
| | | Hours dryland/week | 2 | 4 | 1 | 4 | .5 | 4.5 | | 5.5 | | 5.5-6.5 | | 6 | | 6- | -8 | 5-7+ | | Individual |
| . | | Kilometer/year | - | ≤ <u>9</u> | 96 | 176- | -370 | 497- | -778 | 864- | 1,843 | 1,210- | -2,419 | 2,304 | -2,880 | ≤ 3, | 038 | ≤ 3 | .136 | Individual |
| JGH, | | Kilometer/week | - | 2. | 4 | 4.2- | -8.4 | 10.8- | -16.2 | 18- | 38.4 | 25.2 | -50.4 | 48 | -60 | 5 | 62 | ≤ 6 | 64+ | Individual |
| "ROI | | Kilometer/hours | - | 1. | 2 | 1. | .4 | 1. | .8 | 2 | .4 | 2 | .8 | 3 | .0 | 3 | 1 | 3 | 2 | Individual |
| ORS | | | | | | | | * Sec | ondary sports, s | chool sports, et | c. / ** Cardio erg | ometer training | , aerobics, marti | ial arts fitness, et | с. | | | | | |
| ICAT | qð | Macrocycle/year | - | - | - | - | - | | 1 | s | 2 | s | 3 | ≤ | 3 | 5 | 3 | s | 3 | Individual |
| QN | т | Mesocycle/macrocycle | - | - | - | - | - | | - | | 6 | s | 6 | s | 7 | s | 7 | s | 7 | Individual |
| BNIN | | Microcycle/mesocycle | - | - | - | - | - | - | - | 5 | -1 | 3/- | 4–1 | 3/- | 4–1 | 3. | -1 | 3 | -1 | Individual |
| RAII | | Int.*** training days/week | - | - | - | - | - | | 1 | s | 2 | s | 3 | s | 3 | s | 3 | s | 4 | Individual |
| | | Int.*** training session/week | - | - | - | - | - | | 1 | s | 2 | s | 4 | ≤ | 5 | ≤ | 6 | 5 | 7 | Individual |
| | | Int.*** exercises/training session | - | - | - | | - | | 1 | | 1 | | 1 | | 1 | 1 | 1 | s | 2 | Individual |
| | | | | | | | *** Anaerobic | capacity as well a | as aerobic and a | naerobic power | - not speed!/stro | ongly dependent | t on biological ag | ge and individual | performance pre | erequisites! | | | | |
| | | Training camp/year | - | - | - | | 1 | ≤ | 2 | ≤ | 3 | S | : 3 | ≤ | 3 | s | 4 | 5 | 4 | Individual |
| | | Training camp weeks/year | - | - | - | ≤ | 2 | ≤ | 4 | ≤ | 6 | 5 | 7 | 5 | 8 | 5 | 10 | 5 | 12 | Individual |
| | | Competitions 1 day/year | 0 | 5 | 6 | ≤ | 6 | ≤ | 5 | ≤ | 4 | 5 | 4 | ≤ | 4 | ≤ | 3 | 5 | 2 | Individual |
| | | Competitions 2 days/year | - | - | - | 5 | 2 | s | 4 | s | 8 | 5 | 9 | 5 | 10 | s | 9 | S | 7 | Individual |
| | | Competitions > 2 days/year | - | - | - | - | - | 5 | 1 | ≤ | 3 | 5 | 5 | ≤ | 6 | ≤ ≤ | 6 | ≦ | 6 | Individual |
| | | Competition days/year | 0 | 5 | 6 | ≤ | 9 | ≤ | 16 | ≤ | 20 | ≤ | 30 | ≤ | 35 | ≤. | 35 | 5 | 40 | Individual |

| FTEM | | | | FOUN | IDATION | | | | TALENT | | | | | | | | ELITE | | | |
|----------|----------|---|--|---|--|--|---|---|--|---|---|--|---|---|---|--|---|----------|----------------------------|--|
| Phase | | | F1a > F1b Discover, acquire and basic movements | Apj vary m | F2 ply and ovements | Sport-: and | F3 specific engagement d/or competition | Demonstra | 11 Ite potential | T Confirm | 2 potential | Train and a | T3 achieve goals | T4 Breakthrough and be rewarded | Represent (interr | E1 Switzerland ational) | E2 Have internation success | nal | M Dominate sport | |
| Years o | training | | 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 11 | 12 | 13 | 14 | 15 | 16+ | |
| Calenda | r age | | From 3 to 6 | From 4 to 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 18 | 19+ | | | | | |
| | | Basic movement Breathing, push off, floatin Gilde in streamline Flutter kicks | | mping | Start with diving "Dive and Glide" Paddle Rotate | Rhythm exercises Contrast exercises Combination forms Orientation exercises | | Arm movemen +/- fist swimm Basic water po Basic "Diving" | nt backwards ing olo techniques jumping exercise | Leg movement | backwards | Entire moveme | ent backwards | | | | | | | |
| | | Freestyle | Basic form Economize basic form Flutter kicks \$ 200 m Arm movement Paddle exercises Breathing Rotation exercises | | Imj Mak Impro head | Improve basic form Make kicking effective Improve water position, head posture and stroke length | | Develop fine form Arm pull – high elbow Smooth entire movement at all speeds | | Improve FF – develop individu Arm pull – hand position Ind. paddle and fu technique exercises | | Stabilize FF Develop individual technique and condition | Variable availability Improve ind. technique Ind. TE exercises in comp. speed and long training sets + tactics | Individual techni Perfect individual tec Ind. TE exercises to comp. (sp adapted to race tr (stroke count, frequen | | l technique dual technique omp. (speed) technique o race tactics irequency, splits) | | | | |
| | | Backstroke | Basic form Economize basic form Flutter kicks \$ 200 m Arm movement Paddle exercises Rotation exercises Rotation exercises | | Imj Make Improve postui | prove basic form e kicking effective, breathing, e water position, head re and stroke length | Develop fine form Arm pull – high elbow Smooth entire movement ad at all speeds h | | Improve FF – develop individual t Arm pull – hand position har Ind. paddle and furth technique exercises wal | | dual technique Arm pull, hand position, urther optimize water position | Stabilize FF Develop individual technique and condition | Variable availability Improve ind. technique Ind. TE exercises in comp. speer and long training sets + tactics | Individual technique Perfect individual technique Ind. TE exercises to comp. (speed) techniq adapted to race tactics (number of strokes, frequency, splits) | | l technique dual technique omp. (speed) technique orace tactics is, frequency, splits) | | | | |
| | | Breaststroke | | Basic form Economize BF Kicking ≤ 100 m Arm movment Paddle exercises Breathing uw pullout | | Improve basic form Make kicking effective Improve water position, head posture and stroke length | | Develop Improve Improv Arms-leg: | Develop fine form Improve arm pull Improve timing Arms-legs-breathing | | Improve FF – develop individu Undulation technique Optimize timing of Div entire movement | | Ind. technique Coordination timing, elbow and hand position | Var. avail. – ind. technique Stable technique in longer training sets, ind. technique exercises in comp. speed + tactics | Individual Perfect indivi Ind. TE exercises to cc adapted tr (number of stroke | | Individual technique Perfect individual technique Ind. TE exercises to comp. (speed) technique adapted to race tactics (number of strokes; frequency, splits) | | | |
| | | Butterfly | | Basic form Kicking 1-arm move- ment Breathing | Economize BF ≤ 50 m Paddle exercises | Imj Mak Impro head | prove basic form te kicking effective ove water position, posture and stroke length | Develop fine form Arm pull – high elbow Smooth entire movement at all speeds | | Improve FF – Improve kicking Arm pu 1-/2-stroke bre | Improve FF – develop individ Improve kicking in entire move Arm pull – improve higf 1-/2-stroke breathing, improve | | Ind. technique Coordination timing, elbow and hand position | Var. avail. – ind. technique Stable technique in longer training sets, ind. technique exercises in comp. speed + tactics | Individual Perfect indivi Ind. TE exercises to cc adapted tc (number of stroke | | Individual technique Perfect individual technique Ind. TE exercises to comp. (speed) technique adapted to race tactics (number of strokes, frequency, splits) | | | |
| E GOALS | | Underwater butterfly kicks | Basic fo Underwater butterfly kicks Dolfin movem Prone and back posit 15 m after push | | Length of underwater phase in the competition $1 \text{ kick} \rightarrow 2 \text{ kicks} \rightarrow 3 \text{ kick}$ Focus: increase steadily the number of kick | | se in the competition $s \rightarrow \begin{vmatrix} 3 & kicks \rightarrow \end{vmatrix}$ number of kicks (= di | 4 kicks \rightarrow 5 kicks \rightarrow stance uw) with good technique! | | 5 meters \rightarrow | 5 meters \rightarrow 7 meters \rightarrow 9 meters \rightarrow Focus: cover constantly longer | | 10 meters → distances underw | 13 meters → 15 meters | Length of underwater phase in the competition Individual optimal distance – goal: maximal speed | | | on ≥d | | |
| TECHNIQU | αç | Start from the block | Header From pool edge Streamline Flutter kicks | Basic form Track- and grabstart Reaction Games Breaststroke: uw | | Improve basic form Focus: Trackstart → Iderwater butterfly kicks ullout | | Develop Trackstart wit learn to "div | fine form h ~take-off leg re into 1 hole" ← li | li Tracks Improve to ' nprove underwa | mprove fine for tart with ~take 'dive into 1 hole direction ter butterfly kic | m -off leg ″ and change k and underwate | Stabilize FF Choose take-off leg | Variable availability Improvement of explosive take-off Video analysis of start phases lout → | Individual t Perfect individual with video analysi (position, take-off, flig Improvement of e | | I technique al start technique sis of start phases ight, entry, transition) explosive take-off | | | |
| | | Backstroke start | Diverse jumps backwards | Basic form Underwater in streamline with flutter kicks Reaction games | | | prove basic form rwater in streamline th butterfly kicks | Develop Starting posi jump from t | fine form tion, start and he pool stairs | Improve fine form Improve Improve to dive in back flight phase "dive into" | | | Stabilize FF Improve transition | Variable availability Improvement of explosive take-off Video analysis of start phases | Individual technique Perfect individual start technique with video analysis of start phases (position, take-off, flight, entry, transiti | | | | | |
| | | Freestyle flip turn | Roll forward Basic form Push off in streamline | | | lmı Under wit | prove basic form rwater in streamline th butterfly kicks | Develop Improve exercises an a: | fine form turns with ound all body kes | ← Improve streamline and Improve fine for Improve push off Im by foot position and knee angle | | m nprove timing to the wall Vary distances d underwater but | Stabilize FF Stab. ind. optimal timing | Variable availability Explosive push off improvement Video analysis of turn phases | (swimn | Individual Perfect individu with video analy ning up, timing, f mprovement of | vement of explosive take-off Individual technique ect individual turn technique video analysis of turn phases up, timing, turn, push off, transition) | | | |
| | | Backstroke flip turn (Backstroke and IM BA to BR) | Roll forward Diverse turn drill | Basic form Push off in streamline Is around all body | axes | Imj Under wit | prove basic form rwater in streamline th butterfly kicks | Develop Improve exercises an a: | fine form turns with bund all body kes | Improve push o by foot positio knee angle ← Improve | mprove fine for off In n and e streamline and | m nprove timing to the wall Vary distances d underwater but | Stabilize FF Stab. ind. optimal timing | Variable availability Explosive push off improvement Video analysis of turn phases | (swimn | Individual Perfect individu with video analy ning up, timing, 1 nprovement of | I technique al turn technique rsis of turn phases turn, push off, transitio explosive push off | n) | | |
| | | Tip turn (Butterfly, Breaststroke and IM BU to BA/BR to FR) | Ba Smooth sequence Push off in streamline Diverse turn drill | asic form Breaststroke und | derwater pullout r axes | Imj Under wit or u | prove basic form rwater in streamline th butterfly kicks nderwater pullout | Develop Improve exercises an a: | fine form turns with bund all body kes ← Improve | Improve push o by foot positio knee angle streamline and ur | mprove fine for off In n and nderwater butte | m nprove timing to the wall Vary distance erfly kicks and un | Stabilize FF Stab. ind. optimal timing derwater breastst | Variable availability Explosive push off improvement Video analysis of turn phases roke pullout → | (swimn | Individual Perfect individu with video analy ning up, timing, f mprovement of | dual technique vidual turn technique analysis of turn phases ing, turn, push off, transition) | | | |
| | | Basic movement forms "dryland" | Diverse turn drills around all body axes Core exercises Lying pull-ups Push-ups and dips Squats | | | urn exerc n, jump, s ation exer and the co | ises "dryland" tretch and rcises) pordination and stren | One-leg squat Run and jump gthening exercise | ← Improve s One-leg squat Run and jump ABC | | reamline and underwater butte Pull-up Strength training = Technique training on machines, barbell, etc. | | exercises for star ountermovement e-leg long jump – Strength | t/turn jump, with/without arm movements) training basic exercises: bench pr | Jump strength exercises for start/turn with additional w Swimming-specific strength training forms (swim ber | | weight bench) | | | |

| FTEM | | | FOUNDATION | | | TAI | LENT | EL | MASTERY | | | |
|---------------------|----------------------|--|--|---|---|---|--|---|---|--|---|-----------------------|
| Phase Descriptio | Phase Description | | F1a > F1b Discover, acquire and basic movements | F2 Apply and vary movements | F3 Sport-specific engagement and/or competition | T1 Demonstrate potential | T2 Confirm potential | T3 Train and achieve goals | T4 Breakthrough and be rewarded | E1 Represent Switzerland (international) | E2 Have international success | M Dominate sport |
| Years of t | raining | | 0 | 0 1 | 2 3 | 4 5 | 6 7 | 8 9 | 10 11 | 12 13 | 14 15 | 16+ |
| Calendar | age | | From 3 to 6 | From 4 to 7 8 | 9 10 | 11 12 | 13 14 | 15 16 | 17 18 | 19+ | | |
| | - 5 - | Kilometer/vear | - | ≤ 96 | 176-370 | 497-778 | 864-1843 | 1 210-2 419 | 2 304-2 880 | ≤ 3.038 | ≤ 3 136 | Individual |
| | | Kilometer/week | _ | 24 | 42-84 | 10.8–16.2 | 18-38.4 | 25.2-50.4 | 48-60 | =, ≤ 62 | ≤ 64+ | Individual |
| | | Kilometer/hour | _ | 12 | 14 | 18 | 24 | 28 | 30 | - 62 | 32 | Individual |
| | | "Pegeneration" /week | | | 1/1%/3=6 x | 16% /4_7 x | 24.5%/5_8 x | 22.5% /6_9 x | 23%/8_10 x | 20.5%/10 x | 21%/10 x | Individual |
| | | "Acrobic Capacity 1" (wook | | | 0.5% /1-2 x | 9% /1 x 900_1 200 m | 24.376/5 0 ··· | 222.57676 5 ° | 23%/2-4 x 2 200 m | 2015 /0/ 10 ··· | 10% /4 x 2 200 m | Individual |
| | | "Acrobic Capacity 7" (week | | | 5.570/1 2 ** | 4% (0.5 x 800, 1.200 m | 15% /15 3 x 1600 m | 10% /2 3 × 2,000 m | 10% /2 × 2 000, 2 200 m | 20% (4 × 3,200 m | 228/ (4 × 3,600 m | Individual |
| | | "Aerobic Capacity 2 / week | - | | | 4%/0.5 * 800-1,200 11 | 15 %/ 1.5-5 * 1,600 111 | 15% /1 100, 000 m | 18 %/3 * 2,800-3,200 11 | 20%/4 * 3,200 III | 15% /1 () × 1000 1500 m | Individual |
| | | Aerobic Power / week | - | - | - | - | - | 1.5%/1 × 400-800 m / | 1.5%/1×600=1,000 m / | 1.5%/1 • × 800=1,200 m | 1.3 %/1 (+ × 1,000-1,300 III | Individual |
| "R | | "Anaerobic Capacity"/week | ver"/week – | | - | 2%/1×200-300 m /! | 2%/1(+) × 300-600 m /! | 2%/2×300-500 m // | 2%/2 × 500-600 m / | 2.5%/2 + × 600-800 m | 2.5%/3 (+) × 500-800 m | Individual |
| | | "Anaerobic Power"/week | - | - | - | - | 1%/1 × 200–400 m 🔼 | 1%/1 × 300–500 m 🔼 | 1%/2 × 200–300 m 🗥 | 1.5%/2 (+) × 300−400 m | 1.5%/2 (+) × 400-600 m | Individual |
| VATE | | "Sprint"/week | V | 2.5%/1 × 50 m | 2.5%/1–2 × | 2.5%/1–2 × | 2.5%/2-3 × | 2%/2-3 × | 1.75%/3-4 × | 1.75%/3–4 × | 1.5%/3–4 × | Individual |
| v" s | | Legs/week | V | 10%/1 × 200 m | 10%/2 × 200-400 m | 11%/2 × 600–900 m | 12%/2 × 1,000–2,000 m | 13%/3 × 1,200–2,000 m | 14%/4 × 1,500-2,000 m | 15%/5 × 1,800–2,000 m | 15%/5 × 2,000 m | Individual |
| TOF | | Arms/week | √ | 2.5%/1 × 50 m | 3.5%/1 × 150-300 m | 5%/2 × 250–400 m | 6%/2 × 500–1,000 m | 7%/2 × 900–1,800 m | 8%/3 × 1,200–1,600 m | 8.5%/3 × 1,800 m | 8.5%/4 × 1,500 m | Individual |
| DIC | а. ф | Technique/week | √ | 70%/2 × 800 m | 48%/3-6 × | 44%/4–7 × | 12.5%/2-4 × | 8%/2-4 × | 7%/3–4 × | 7%/4 × | 7%/4 × | Individual |
| N S | | Coordination/week | √ | 15%/2 × 200 m | 12.5%/3–6 × | 7.5%/4–6 × | 4.5%/5–8 × | 3%/4–8 × | 1.75%/4–5 × | 1.75%/5 × | 1.5%/5 × | Individual |
| Ž Z | | Starts and turns/week | √ | 1 × 15' | 1 × 15' | 2 × 15' (30') | 2 × 20' (40') | 3 × 15–20' (45–60') | 3 × 20' (60') | 3 × 20' (60') | 3 × 20' (60') | Individual |
| TRAIN | | Learning goals | Water habituation, safety, hygiene | Ability to work in a team, competition rules, stroke count | Frequent training, swim with pauses, differentiate speed | Goal setting, sporting behavior, swim with send-off times, dose speed, propulsion | Time management, take heart rate, swim with target time, biology | Sports-appropriate nutrition, swim with target frequency and tactics, physics | Swim with combined targets (e.g. @/V/F/TE), physiology, biomechanics | Financing (funding system) travel/time and climate adap | stems, sponsoring, etc.), tation strategies, biochemistry | - |
| | | Training equipment | Swimsuit, swimm | ing goggles, swim cap, kickboard | d, fins, water bottle | + Hand paddles (small) | + Racing suit, zoo specific comp. clothes, di (theraband, skipping | mer, snorkel, band, iv. land training equipment g rope, blackroll, etc.) | + Hand paddles div. sizes (anti-/mesh paddles), mesh socks, pulse sensor | + Resistance pants (+/- parachutes (div. sizes), power | pockets), StretchCordz®, T-shirt, sponges, bucket, rack, lead | Individual |
| | | "Desistence tusinin a" | Minimal floating aids for tech | nique training | | Paddles for technique training | g (sensormotorics) | (Butterfly-)kicking/full stroke | with fins/zoomer | (Butterfly-)kicking/arms/full stro | ke with div. resistance equipment | Individual |
| | | "Resistance training" | | Fins for technique training (se | ensormotorics) | | "Speed Assist Training" with S | stretchCordz® (green) | Arms/full stroke with paddles | (+ fins/zoomer) | | |
| | | Altitude training - | | - | - | - | - | 1 × per season (1 [#] MAC), in ≤ 2,000 m, for clarification "responder/non-responder" and general preparation | If "responder": ≤ 2 × per season, ≤ 2,000 m, 1 × for general preparation (1 st MAC) & 1 × spec. preparation (2 nd /3 rd MAC) | "responder": ≤ 3 × per season (altitude training cascade), ≤ 2,000 m, for general and spec. preparation | "responder": < 4 × per season (altitude training cascade), < 2,500 m, for general, spec. and immediate preparation | Individual |
| | | Training session dryland/week | - | 4 × 15' | 6 × 15' | 7 × 20' | 8 × 20' | 8 × 20' | 8 × 20-30' | 9 × 20–30' | 9 × 20-30'+ | Individual |
| | | lexibility/week 2 × 15' gene | | ral flexibility | 3 × 15' specific flexibility | 3 × 20' specific flexibility | 3 × 20' maintain flexibility | 3 × 20' maintain flexibility | 3 × 20' maintain flexibility | 3 × 20' maintain flexibility | 3 × 20' maintain flexibility | Individual |
| | | "Core"/week | 1 × 15' simple warm-up exercises | | 2 × 15' +BW, MB, SB | 2 × 20' +BW, MB, SB | 3 × 20' +BW, MB, SB | 3 × 20' +BW, MB, SB | 3 × 30' +BW, MB, SB | 3 × 30' +BW, MB, SB | 3 × 30' +BW, MB, SB | Individual |
| AND | | Shoulder prevention/week | 1 × 15' simple warm-up exercises | | 1 × 15' +BW, MB, SB | 2 × 20' +BW, MB, SB | 2 × 20' +BW, MB, SB | 2 × 20' +BW, MB, SB | 2 × 30' +BW, MB, SB | 3 × 30' +BW, MB, SB | 3 × 30' +BW, MB, SB | Individual |
| RYL | | aining session polysport/week 120' general | | 180' general | 180' general | 180' general | 180' general | 180' general | 60' general + 60' fitness | 60' general + 60' fitness | 60' general + 60' fitness | Individual |
| S "L | | Coordination | Orientation, balance, conve | rsion and coupling capability | Reaction, rhythm & different, cap. | General coordination | General coordination | General coordination | General coordination | General coordination | General coordination | Individual |
| ATOI | 0 5 | Games | | Many game forms! | | Low-risk game forms | Low-risk game forms | Low-risk game forms | Low-risk game forms | Low-risk game forms | Low-risk game forms | Individual |
| DIC | φ | General conditioning | | Speed and general endurance | | Speed and AEC | AFC 1/2 | AFC 1/2 | AFC 1/2 and AFP | AFC 1/2 and AFP | AFC 1/2 and AFP | Individual |
| N B | | Training session strength/week | - | | - | - | 1 x 60' technique training | 1-2 × 60' | 2 × 60' | 2-3 × 60' | 2-3 × 60'+ | Individual |
| NIN | | High-speed strength | | ⊢ lumping/throwing/hittin | a/kickina/pushina/pullina → | | 6 E/10_15 P/2 S/2' P | 6_7 F/20 P/3 S/3' P | 8_9 F/20 P/4 S/3' P | 10_11 E/25 B/4 S/3' P | 11_12 E/30 P/4 S/3' P | Individual |
| TRA | | Strongth onduranco | | C sumping/ throwing/ inter | g/kicking/pushing/pulling / | | 6 E //E" 1' W//2 S /I' D | 6 9 E/40 B/2 S/1' D | 8 E / 40 B / 4 S / 4E - 20" B | 9 E /E0 B /4 S /4E -20" D | 0 E/60 B/4 S/4E 20" D | Individual |
| | | Umertrenhu | _ | _ | _ | - | 0 L/45 -1 W/2 S/1 P | 5 6 5 /40 K/3 3/1 F | 7 0 F /10 D /2 C // D | 0 10 F/0 D/4 5/45-30 F | 11 12 F (0 D /F C /2 D | Individual |
| | | | - | - | - | - | - | 5-6 E/12 R/2 5/1 P | 7-8 E/ 10 R/S S/1 P | 9-10 E/8 K/4 3/2 P | 11-12 E/8 K/3 3/2 P | |
| | | Intramuscular coordination | - | - | - | | - | - | - | 5-6 E/5-4 K/2-3 S/3 P | 7-8 E/3 R/4 5/4 P | 10-12 E/2 K/5-6 S/5 P |
| | | Performance diagnostic | 3–4 × per se technique tests sw coordination tests | eason measure body height and l /imming/starts and turns/underv ; glide tests, dive tests, speed te | body weight, vater butterfly kicks, sts, endurance tests | 1 × per month measure technique tests swimming/ kicks (+video), glide tests, s standard series, cc tests on land for strength | BH and 1 × per week BW, starts and turns/uw butterfly peed tests, endurance tests, mpetition analysis, n/flexibility/jump strength | 1 × per month measure BH and sis (ow+uw) swimming/start competition analysis (+video tests, endurance tests (+lacta tests on land for strengt | d 2 × per week BW, video analy- s and turns/uw butterfly kicks, s &/ lactate), glide tests, speed ate), standard series (+lactate), h/flexibility/jump strength | 2 × per week measure BV video analysis ow and uw for butterfly kicks, competition an tests, speed tests, endurance +lactate, tests on land for str | V (in TC/competition daily), swimming/starts and turns/uw nalysis +video and lactate, glide t tests +lactate, standard series ength/flexibility/jump strength | - |
| EASURES | | Sports medicine | | Family doctor | | Family doctor, Swiss (basic sports medical ex injury treatment (-cons | Olympic sports doctor, amination 1 × per season, sultation) available 24/7 | Family doctor, association do sports medical examination 1 × tional blood tests, injury treatm | octor, SOA sports doctor, basic per season, 2 × per season addi- ent (-consultation) available 24/7 | Family doctor, association doctor medical examination 1 × per sea blood tests, injury treatment | or, SOA sports doctor, basic sports son, min. 2 × per season additional : (-consultation) available 24/7 | Individual |
| ITIONAL M | ďç | Physiotherapy | Only if | necessary (after referral by family | / doctor) | Preventive examin consultation/trea | ation 1 × per season, tment if necessary | Preventive examination 1 × (-consultation) available 24/7 target co | per month, injury treatment , full support in training camps/ mpetitions | Preventive examination 2 × (-consultation) available 24/7 comp | per month, injury treatment , full support in training camps/ etitions | Individual |
| ADD | | Mental training | - | Expand social manners for togetherness in the group | Practice emotion control (win-loss), practice cognitive control (concentration) | Improve emotion control (relaxation exercises), improve cognitive control (attention control), practice motor imagery | Improve emotion control (coping with stress), attention training, improve motor imagery (ideomotoric training) | Train stress management, attention training, ideomotoric training support | | Optimize and train individual strategies – if necessary with professional support | Optimize and train individual strategies – if necessary with professional support | Individual |
| | | Media training | - | - | - | - | - | - | Impart basic knowledge per handout &/ lecture | Media training in groups: appearance, rhetoric, handling | Individual media training: appearance, rhetoric, handling | Individual |

Training Zones

| SYMBOL | TRAINING ZONES | DESCRIPTION ENERGY SOURCES | LOADIN | IG DURATION (MIN) | RPE | V IN % OF ACT. PB | LACTATE (MMOL/L) | HEART RATE | VO2MAX | PAUSE | RECOVERY | SD 50–100 | MD 200-400 | LD 800-1500+ | METHODS | PARTICULARITIES |
|--------|--|--|-----------|----------------------|------------------------------|----------------------|---------------------|---|---------|--|---------------------------------------|--|-----------------------|-----------------------|---------------------------------|---|
| REG | Regeneration/ Compensation | For regeneration, training load processing and preparation for training loads Energy supply from carbohydrates, fats, lactate | | - | "very light" Borg < 9 | < 75% | < 1,5 | Before puberty: <140 after: 100–120 | 60-70% | - | - | Up to 3,000 easy | Up to 3,000 easy | Up to 3,000 easy | Continuous method | Swimdown after intensive training and after competition up to lactate < 2.5 mmol/l |
| | | | T1 | 20-40' | | 75-80% | | | | 1,500s → 40-60" | | < 3.000 | < 3.000 | c E 000 | Continuous | |
| | | Extensive aerobic capacity | T2 | 30-45' | "light" Borg 10–12 | FR frequency: | | Before puberty: ,5 140–150 after: 120–145 | 70-75% | 800s → 40-60" | | ⇒ 3,000 | ≥ 3,000 | ≥ 5,000 | fartlek training | Ability to supply energy from fats and lactate |
| AEC1 | | Energy supply from carbohydrates (muscle, blood, liver), fats, lactate | T3 | 40-60' | | 100-31 | 1,5–2,5 | | | 400s → 30-60" | 6–12 hours | | | | | Improves buffer capacity Optimizes the sefiling second |
| | | (muscle, blobu, inter), rats, lactate | T4 | 45-60' | | 200-30 | | | | 100/200 → 20-30" | | 50–1,500s | 50–1,500s | 50–1,500s | Extensive interval | of the glycogen storage |
| | Aerobic Capacity | | E1+ | 45-60+' | | 400-27 | | | | 50s → 15-30" | | | | | | |
| | (aerobic endurance ext./int.) | | T1 | 20-40' | | 80-85% | | | | 800s → 1-2' | | | | | | |
| | | Intensive aerobic capacity | T2 | 30-45' | "middle" Borg 13–14 | FR frequency: | 2,5-3,5 | Before puberty: 150–170 after: 145–160 | | 400s → 30-60" | 12–24 hours | 50-800s | 50-800s | 50-800s | Extensive interval | Improves heart stroke volume, blood volume, pulmonary capillary |
| AEC2 | | Swimming speed at 3 mmol/l Energy supply esp. from carbohydrates (muscle, blood, liver) | T3 | 40-60' | | 100-35 | | | 75-80% | 100/200 → 20-30" | | ≤ 3,000 | | | | capacity, capillarization |
| | (muscle, t | | T4 | 45-60' | | 200-33 | | | | 50s → 15-30" | | | ≤ 3,000 | ≤ 5,000 | Fartlek training, continuous | mitochondrial concentration |
| | | | E1+ | 45-60+' | | 400-31 | | | | 25s → 10-15" | | | | | method | |
| | | VO2max Not mandatory necessary for 100–200 m swimmers | T2 | - | Wory hard" Borg 18–20 | 100% | | | | | | | | | | |
| | Aerobic Power (VO2max) | | T3 | 4' | | MD-LD | | Before puberty: | | 5-30" (depending on | 48–96 hours | | ≤ 1,500 | ≤ 3,000 | Intonsivo | Improves maximum oxygen absorption |
| AEP | | Essential for distances > 200 m = "Race Pace" | T4 | 4–12' | | "Race Pace" | 5–8 | 190–210 after: | 95–100% | interval distance)/ | (max. 1–2 ×/ week) | - | series with | series with | interval | Improves capillarization, buffering capacity and increases myoglobin |
| | | Energy supply esp. from carbohydrates (muscle, blood) | E1 | 4–16' | | FR frequency: | | 170–190 | | 3-4 SP (active) | | | 50-100s | 50-200s | | and mitochondrial concentration |
| | | | E2 | 8-24' | | 45-50 | | | | | | | | | | |
| | | Anaerobic capacity Under distance sector | T1 | 2' | | | | Before puberty: 220 after: | - | | | | | ≤ 800 à 1–3 | | |
| | Anaerobic Capacity | | T2 | 4' | "hard" | 100–105% | | | | 20–60" (depending on interval distance)/ | 24-120 hours (max. 2-3 ×/ week) | ≤ 800 ≤ 80 à 1-3 à 1- series with series 25-50s 25- | ≤ 800 à 1-2 | | Intensive | Ability to supply maximum of energy from anaerobic-lactacid systems |
| ANC | (lactate production/ speed endurance) | Energy supply from muscle storage (ATP/CP/glycogen) and carbohydrates | T3 | 8' | Borg 15–17 | | 8–10 | | | | | | series with | series with 25–50s | intensive | |
| | | (blood) | T4 | 8' | | FR frequency: | | 180-200 | | 0-10 SF (passive) | | (max. 75) | 25-505 | | | |
| | | | E1+ | 8+' | | 50-55 | | | | | | | | | | |
| | | Anaerobic power | 11 | - | | 100% | "Design Curing" | Defere | | 5-30" | | ≤ 400 "BS" à 2-3 | ≤ 600 "BS" à 2-3 | | #D C ' # | |
| | Anaerobic Power (lactate tolerance/ | Lactate tolerance for 50–400 m swimmers = "Race Pace" | 12 | 2-4' | "very hard" | SD-MD | 8–10 | puberty: | | (dep. on interval distance)/ | 72-96 hours | series with 25–50s | series with 25–75s | | "Broken Swim" | Ability to endure high lactate levels To maintain swim technique |
| ANP | competition-specific endurance/stamina) | "Broken Swim", i.a. for forecast Energy supply from carbohydrates | 13 | 4-6 | Borg 19–20 | "Race Pace" | Accumulation: | after: | - | 3-20' SP (active) | (max. 2–3 ×/ week) | | | - | | against fatigue • Improves buffer capacity |
| | | (muscle, blood) | 14 F1 | 6 16 | | FR frequency: | Max.! (> 16) | 180-200 | | (dep. on interval | | 25–100s | 25–100s (max. 200) | | Repetition method | Improves buffer capacity |
| | | | сіт T1 | 0-0 | | | | | | uiscance – active) | | | | | | |
| | | Sprint speed | T2 | 2 | | | | Before | | | | | | | | |
| c. | Speed | Starts and turns training and mobilization | 12 T3 | 4_6' | "light" | 105-110% | Up to 5 possible | puberty: | _ | 15-5' (active) | 12-72 hours | ≤ 300 with | ≤ 300 with | ≤ 300 with | Repetition | on d Paximum fast movement programs with optimal technique in the anaerobic-alactacid area |
| | (Sprint) | Energy supply from muscle stores (ATP/CP/glycogen) | T4 | 4-8' | Borg 10–12 | 105-11070 | op to 5 possible | after: | | | .2-72 Hours | (max. 15"!) | (max. 15"!) | (max. 15"!) | method | |
| | | (ATP/CP/glycogen) | F1+ | 4-8+' | | | | 160–180 | | | | | | | | |
| | | | LIT | 4-01 | | | | | | | | | | | | |

Legend

| BF | Basic form |
|-------------|--|
| FF | Fine form |
| SC | Swiss Championship |
| SCSC | Swiss Championship Short Course |
| JRC | Junior Regional Championships |
| JSC | Junior Swiss Championship |
| JCC | Junior Club Championship |
| СС | Club Championship |
| EYOF | European Youth Olympic Festival |
| alt. comp. | Alternative competition |
| JEC | Junior European Championship |
| YOG | Youth Olympic Games |
| EC | European Championships |
| SCEC | Short Course European Championships |
| WC | World Championships |
| SCWC | Short Course World Championships |
| OG | Olympic Games |
| CISM | Competition of the Conseil International du Sport Militaire (International Military Sports Council) |
| У | Years |
| U16 | Under 16 |
| NWF | Nachwuchsförderung (promotion of young talent) |
| eidg. FA | Federal Certificate of Competence |
| SLRG | Schweizerische Lebensrettungsgesellschaft (Swiss Lifeguard Society) |
| J+S | Jugend+Sport (Youth+Sport) |
| BLS AED | Basic life support automated external defibrillators (first aid) |
| BTL | Berufstrainerlehrgang (Professional Trainer course) |
| DTL | Diplomtrainerlehrgang (Diploma Trainer course) |
| LS | Leistungssport (high-performance sport) |
| NW | Nachwuchs (Juniors) |
| SOA | Swiss Olympic Association |
| BASPO | Bundesamt für Sport (Federal Office of Sport) |
| CST | Centro Sportivo Tenero (Tenero Sports Center) |
| 0° | Male |
| Q | Female |
| 0° Q | Regardless of gender |
| * | Extent of trainability |
| ** | Extent of trainability |
| *** | Extent of trainability |
| *** | Sensitive phase of trainability |
| MAC | Macrocycle |
| Int. | Intensive |
| comp. | Competition |
| 60' | 60 minutes |
| s | Up to _ |
| TE | Technique |
| Var. avail. | Variable availability |
| v | Velocity |
| BA | Backstrocke |
| uw | Underwater |

Over water

Diverse

ow div.

| stab. | Stabilize |
|-----------------|--|
| ~ | Alternating |
| +/- | With or without |
| + | With |
| - | Without |
| √ | Should be part of the training weekly |
| - | Volume according to percentage apportionment |
| ▲ | CAUTION: Intensive training area – load must be adapted to the performance ability of the athletes! |
| Ð | More training per week possible with this content, but be CAREFUL! Due to intensive training zone – load must be adapted to the performance ability of the athletes! |
| т | Talent |
| ≤_+ | Up to and more |
| @ | Send-off times |
| v | Velocity (speed) |
| BW | Body weight |
| different. cap. | Differentiation capability (coord. capability) |
| MB | Medball |
| SB | Swissball |
| E | Number of exercises |
| R | Number of repetitions |
| S | Number of series |
| Р | Duration pause |
| w | Duration work |
| ВН | Body height |
| 24/7 | Around the clock |
| &/ | And/or |
| VO2max | Maximum oxygen uptake capacity |
| ACT. PB | Actual personal best |
| FR | Freestyle |
| BU | Butterfly |
| BR | Breaststroke |
| SD | Short distance |
| MD | Middle distance |
| LD | Long distance |
| IM | Individual medley |
| dep. | depending |

BIBLIOGRAPHY



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