

PISTE YOUTH REQUIREMENTS

PROGNOSTIC INTEGRATIVE SYSTEMATIC TRAINER ESTIMATION

SEASON 2024-2025

Introduction

In Artistic Swimming PISTE is used as a tool to detect future talents of the sport for the selection of regional and national team members. The PISTE test serves as the basis for obtaining the Swiss Olympic Talent Card. PISTE stands for Prognostic Integrative Systematic Trainer Estimation.

PISTE CATEGORIES

The athletes are divided into 4 categories according to the year of birth of a swimmer. The PISTE 2025 serves as the basis for the distribution of the Swiss Olympic Cards 2025-2026 and national team selection 2025-2026. Junior swimmers fulfilling the minimum year of birth can participate in PISTE Junior and Elite.

Season	KIDS (J3)	YOUTH (J2)	JUNIOR (J1)	ELITE	Selection for national team and SOTC
2024-25	2014 & younger	2013-2021-2011	2010-2009- 2008-2007	2009 & older	2025-2026
2025-26	2015 & younger	2014-2013-2012	2011-2010-2009- 2008	2010 & older	2025-2026

To take part in the PISTE 2024 the swimmers must have the following test level the **latest by PISTE inscription:**

KIDS (J3)	YOUTH (J2)	JUNIOR (J1)/ELITE
3	4	5

SWISS OLYMPIC TALENT CARDS

Swiss Olympic Cards are distributed to the swimmers that fulfill the given requirements. Cardholders can profit from various benefits from different partners and easy access to certain athletic infrastructures and sports schools. More information regarding the Swiss Olympic Cards can be found on their website: <https://www.swissolympic.ch/athleten-trainer/swiss-olympic-card>

Swiss Olympic Card Elite: distributed to elite national team members.

Swiss Olympic Talent Card National: distributed to the national team members.

Swiss Olympic Talent Card Regional: distributed to regional team members and/or athletes that reach the minimum required points.

NATIONAL TEAM SELECTION

National teams are selected according to the selection process and selection policy of Swiss Aquatics - Artistic Swimming. All athletes including current national team members must take part in the PISTE 2025.

REQUIREMENTS PISTE 2025

The PISTE Requirements have been reviewed in 2023 in collaboration with Swiss Olympic. The goal was to introduce additional factors to the land and water exercises and competition results. Before the renewal only the current performance of an athlete was taken into account. Newly the environment of an athlete is considered as a prognostic factor. The Relative Age and Biological State of Development of a swimmer is measured, and their results will be corrected accordingly. The PISTE 2025 will include the same factors as PISTE 2024:

- 1 Land and Water Tests
- 2 Competition results
- 3 Environment
- 4 Relative Age and Biological State of Development

CALCULATION OF RESULTS

The following formula and table provide an overview of how the results of the various PISTE parts are calculated.

Final Result per athlete = [(Land test_{weighted} + Water tests_{weighted} + Competition results_{weighted}) * Factor Environment * Correction factor of Biological State of Development (BSD) and Relative Age (RA)

Category	Land tests	Water tests	Competition results	Environment	Correction BSD and RA*
ELITE & JUNIORS	30%	70%	-	1.0-1.1	correction per age*
YOUTH	30%	40%	30%	1.0-1.05	correction per age*
KIDS	30%	40%	30%	1.0-1.01	correction per age*

* Mean value from scientific studies, see also ranking tool PISTE Swiss Olympic.

PENALTIES

SPECIFICATION OF PENALTIES

These penalties are valid for all categories

1. Exercise "Height"

Penalty: 2 points per position if the number of beats is not respected.

2. Exercise "BB+BR"

Penalty: 2 points per element if the counts are not respected.

3. Routine Set

- Penalty for counts not respected: deduction for obvious error (0.5-point penalty).
- Penalty for movement not done: deduction for major error (3.0-point penalty).
- Touching the floor at any time will result in a deduction of 2 points from the total score.

Additional penalties and zeros will be assigned by the referee.

GYM DEVELOPMENT PROGRAM FOR YOUTH AND JUNIOR ATHLETES

1. PISTE (In-Person Session) - Once a Year
2. Virtual Assessment - Twice a Year (dates tbd)

Objective: To maintain continuity in training, and monitor the progressive development and improvement of general physical and special physical preparedness.

OFFICIALS BEHAVIOUR

Professional Coach behaviour is essential to maintain professionalism, fairness, and sportsmanship. Coaches are expected to show respect towards judges, referees, and other officials at all times. Any disagreements or concerns should be addressed through the appropriate channels in a respectful manner. Coaches must promote fair play and integrity among their athletes, discouraging any form of cheating, unsportsmanlike conduct, or rule violations.

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1. LAND AND WATER TESTS



1.1. LAND TESTS YOUTH

1.1.1. UPPER BODY COMBINATION

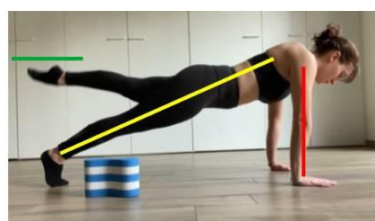
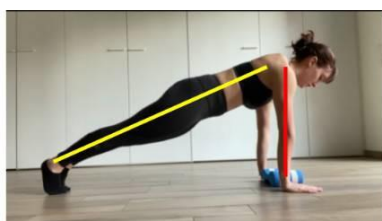
A) **30 seconds** plank with straight leg kicks

- Shoulders, hips and heels in a line 
- Hands and shoulders in line 
- Foot and Legs need to reach the horizontal line of the shoulders 

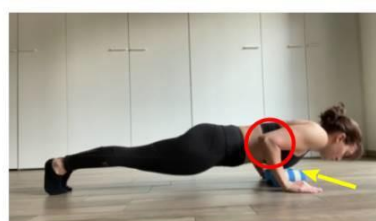
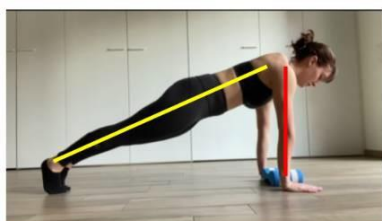
B) **15 seconds** triceps push ups

- Check touching pull boy 
- Elbows touching the body 

a) plank with legs kicks



b) triceps push-ups



A) Plank position + leg kicks evaluation: Mark for execution from 0-10 (steps by 1)

- 10: Correct and stable execution
- 8: Slight loss of line between shoulders and hands and/or slight loss of core control
- 5: Significant loss of core control, loss of extension of elbows and/or knees, loss of line between shoulders and wrists, loss of line between head and shoulders
- 3: Evident instability of position and inability to maintain position without noticeable changes
- 0: No execution

B) Triceps push-ups Evaluation: max 10 points (= 1 repetition per second)

Repetitions	Score	Repetitions	Score	Repetitions	Score
≥ 15	10.0	9	7.0	3	3.0
14	9.5	8	6.5	2	2.0
13	9.0	7	6.0	1	1.0
12	8.5	6	5.5	0	0.0
11	8.0	5	5.0		
10	7.5	4	4.5		

Only well executed repetitions will be counted.

1.1.2. Lower Body combination

A) 45 seconds jump rope with 150BPM metronom

B) 20 seconds squats

A) 80°-90° between thighs and tibias

B) Arms in line with the shoulders

C) 15 seconds jumps

- legs open
- 90° or less between thighs and tibias
- hand touch the floor down
- arms vertical up
- pointing toes



A) Jump rope evaluation → max 10 points (= 1 repetition per second)

# of stops	Score	# of stops	Score
0	10.0	3	4.0
1	8.0	4	2.0
2	6.0	5	0.0

B) squats evaluation → max 10 points (= 1 repetition per second)

Reps	Score	Reps	Score	Reps	Score	Reps	Score	Reps	Score
≥ 20	10.0	16	8.0	12	6.0	8	4.0	4	0.0
19	9.5	15	7.5	11	5.5	7	3.0		
18	9.0	14	7.0	10	5.0	6	2.0		
17	8.5	13	6.5	9	4.5	5	1.0		

C) jumps evaluation → max 10 points (= 1 repetition per second)

Reps	Score	Reps	Score	Reps	Score	Reps	Score
≥ 15	10.0	11	8.0	7	6.0	3	3.0
14	9.5	10	7.5	6	5.5	2	2.0
13	9.0	9	7.0	5	5.0	1	1.0
12	8.5	8	6.5	4	4.5	0	0.0

Only well executed repetitions will be counted.

1.1.3. Core Strength (Pictures per position will be added)

A) Jack Knives with One Leg (15 repetitions)

- Begin by lying flat on your back with your arms extended straight above your head and your legs fully extended.
- Raise your leg and simultaneously lift your upper body, reaching your hands towards your foot.
- Lower your leg and upper body back to the starting position.

B) V-Sit with Two Legs (5 seconds hold)

- Start by lying on your back with your legs together and arms extended straight above your head.
- Simultaneously lift your upper body and legs to a V-sit, balancing on your sit bones.
- Hold V-sit position for 5 seconds, engaging your core muscles to maintain balance.

C) Candlestick Hold (5 seconds)

- From the V-sit position, sharply lift your legs up and roll back onto your shoulders in one motion, lifting your lower back off the ground.
- Extend your legs towards the ceiling, reaching as high as possible while keeping arms extended on the floor for support.
- Maintain a tight core and stable balance, holding the candlestick position for 5 seconds.

EVALUATION CRITERIA FOR CORE STRENGTH EXERCISES

Score	10 points	8 points	6 points	4 points	2 points	0 points
Jack Knives	Hands touch feet in all repetitions.	Hands touch ankles in all repetitions.	Hands touch shins in all repetitions.	Hands touch knees in all repetitions.	Poorly executed movements.	The exercise is not executed, or not all repetitions are completed.
V-Sit	Hands are positioned behind the heels during the entire hold.	Hands are at the ankles throughout the hold.	Hands are at the shins throughout the hold.	Hands are at the knees throughout the hold.	Position is greater than a 45-degree angle.	
Candlestick Hold	Achieves a perfect line with feet, glutes, and spine aligned, remaining within 5 ° of the vertical line for the full duration.	Maintains alignment but deviates more than 5 ° off the vertical line, resulting in 0 points for this part.	Deviates more than 5 ° off the vertical line, resulting in 0 points for this part.	Deviates more than 5 ° off the vertical line, resulting in 0 points for this part.	Deviates more than 5 ° off the vertical line, resulting in 0 points for this part.	

For each exercise (A, B, and C), a score will be given. The average of the three exercises will be taken.

1.1.4. Right, left, and middle splits on land

1 to 6 kickboards on both feet. 1 score for each split (right, left and side)

- Extended knees (both legs)
- Position of the back leg (no rotation)
- Hips on the floor
- Hips, shoulders, and head on one vertical line
- Right and left: straight arms behind the hips
- Side: elbows on the floor



Kickboards height = 3.0 cm

Kickboards	Score	Kickboards	Score
6	10.0	2	6.0
5	9.0	1	5.0
4	8.0	0	4.0
3	7.0	Not flat	2.0

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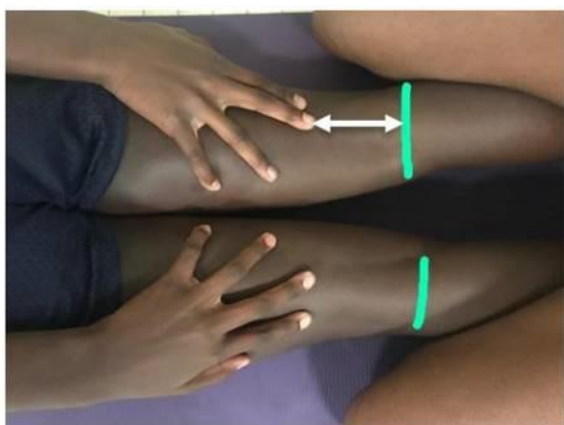
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1.1.5. Arch (active back flexibility)

Maintain the arch position for **5 seconds**.

The distance between the fingers and the natural line behind the knee is measured.



Distance	Score	Distance	Score	Distance	Score
-16.0 cm	10.0	-2.0 cm	6.5	12.0 cm	3.0
-14.0 cm	9.5	0.0 cm	6.0	14.0 cm	2.5
-12.0 cm	9.0	2.0 cm	5.5	15.0 cm	2.0
-10.0 cm	8.5	4.0 cm	5.0	16.0 cm	1.5
-8.0 cm	8.0	6.0 cm	4.5	17.0 cm	1.0
-6.0 cm	7.5	8.0 cm	4.0	18.0 cm	0.5
-4.0 cm	7.0	10.0 cm	3.5	≥ 19 cm	0.0

1.1.6. Feet and legs extension

Sitting in a pike position (straight back, head, shoulders, and hips in a vertical line), maximum extension of the legs and feet. The 2 distances will be measured:

A) Between the floor and the heels



Distance	Score	Distance	Score	Distance	Score
≥ 5.5 cm	10.0	3.0 cm	7.5	0.5 cm	5.0
5.0 cm	9.5	2.5 cm	7.0	0.0 cm	4.5
4.5 cm	9.0	2.0 cm	6.5		
4.0 cm	8.5	1.5 cm	6.0		
3.5 cm	8.0	1.0 cm	5.5		

B) Between the floor and big toe

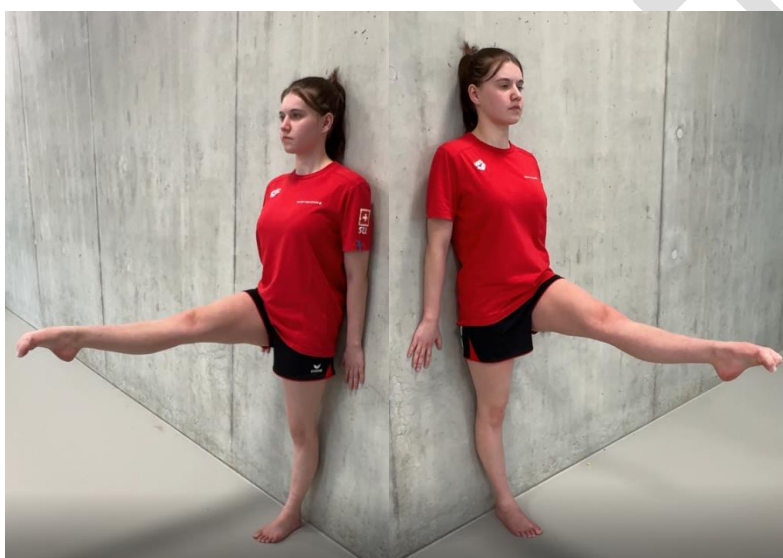


Distance	Score	Distance	Score	Distance	Score
≤ 2 cm	10.0	4.5 cm	7.5	7 cm	5.0
2.5 cm	9.5	5 cm	7.0	7.5 cm	4.5
3 cm	9.0	5.5 cm	6.5	8 cm	4.0
3.5 cm	8.5	6 cm	6.0	8.5 cm	3.5
4 cm	8.0	6.5 cm	5.5	≥ 9 cm	3.0
5.0 cm	8.0	10.0 cm	5.5	≥ 15.0 cm	3.0

1.1.7. Standing Leg Extension at 90°

EXECUTION:

- Stand upright with your back against a wall, ensuring your head, shoulders, glutes, and heels are in contact with the wall for stability and alignment.
- Keep your hips squared and aligned with the wall.
- Lift one leg straight out in front of you, aiming to reach a 90° angle with your torso. The extended leg should remain straight and aligned with your body.
- Hold the extended leg at the 90° angle for a duration of 10 seconds.
- Focus on maintaining proper alignment with your head, shoulders, glutes, and heel against the wall throughout the hold.
- Ensure your hips remain squared and avoid any rotation or twisting.



Score	Scoring Criteria
10 points	Successfully maintain the extended leg at 90° for the full 10 seconds without any deviations or adjustments. Maintain proper alignment against the wall.
5 points	Hold the leg at 90° but may require minor adjustments to maintain balance or alignment with the wall.
2 points	The leg reaches 90° briefly but does not sustain the position for the full 10 seconds or requires significant adjustments.
0 points	If the leg drops below a 45° angle at any point during the 10-second hold, the exercise is considered failed.

For both the right and left leg, a separate score will be given. The average of both scores will be taken. During the exercise, up to two corrections can be given. If not corrected, the score will be downgraded accordingly.

1.1.8. Basic Acrobatics: Front and Back Walkover*

EXECUTION OF FRONT WALKOVER:

- Begin with one leg extended in front of you on point, arms raised overhead, and positioned near to the ears. Lunge forward and quickly raise one leg, with the other leg following as if transitioning to a handstand.
- The legs are held straight in a split as they travel overhead.
- The back is then arched until the leading foot touches the floor, such that the performer is briefly in a back bridge position.
- After the trailing foot reaches the floor, return to a standing position with one foot extended in front and arms raised.

EXECUTION OF BACK WALKOVER:

- Begin with one leg extended in front of you on point, arms raised overhead, and positioned near to the ears.
- Kick one leg backward while extending arms overhead.
- Transition smoothly into a back bridge, arching the back with hands supporting.
- Extend the other leg into a split position.
- Reverse the movement by lowering the extended leg, pushing through arms and legs to return to start position with arms overhead.

* The video is available on the website

*Judged by National Team Coaches

*it is allowed up to two attempts to complete the exercise.

EVALUATION:

Awarded a score of **5** if the walkover is **DONE** and a score of **0** if **NOT DONE**.

1.2. WATER TESTS YOUTH

1.4.1 Propulsion combination (100 m without break)

The swimmer performs without breaks:

A) Front Pike Position

- beginning of the lap: 4 counts to prepare in eggbeater, 4 counts kick to the side, 2 counts arm transition forward, 2 counts to arrive to pike, 2x8 counts hold front pike position, finish with rapid walkover.

Performed to a metronome at 160 beats per minute.

B) 25 meters Torpedo

- starting in back layout position after walkover
- end of distance: feet touch the wall

C) 25 meters Ballet Leg (right of left leg is free)

- rise up the leg passing through the bent knee layout position
- end of the lap: touch the wall with the head
- rise down the leg passing through the bent knee layout position

D) 12.5 meters LATERAL Eggbeater (right or left is free) + 12.5 meters LATERAL Eggbeater Arm at 90° (right or left is free)

- beginning of the lap: leg push from the wall is NOT allowed, lap needs to be started with resurfacing from under water
- opposite arm than direction of movement straight at the surface (small movements with remaining arm are allowed)
- at 12.5m kick to reach side position, lift arm at 90° off the surface, remaining arm straight at the surface
- end of lap: lower arm straight down, body turns 270° around body axis in eggbeater

E) 12.5 meters FRONT Eggbeater + 12.5m of side flutter kick arm at 90° (right or left is free)

- beginning of the lap: leg push from the wall is NOT allowed
- arms in the water (small movements are allowed)
- at 12.5m kick to reach side position, start flutter kick
- arm in direction of movement straight at the surface, arm in opposite direction of movement at 90° off the surface

1 mark (0.25) for execution will be given for each part (A-E) respecting the following criteria. The average will be taken.

EXECUTION OF PROPULSION COMBINATION:

Transition into Pike Position

- Pike Position: Angle 90° degrees
- Legs dry at the surface
- Entrance with back extended, shoulders rotating from side position to horizontal front position
- Hips need to arrive at the starting point of the head
- The rapid walkover is executed through either a right or left split

Torpedo

- Legs: Extension of legs, position of legs at the surface
- Core: correct position of hips (no seated position, no rotation), control of core
- Upper Body: shoulders pushing down and back, shoulder blades together, long and extended neck position, only the face out of the water-not the whole head, chin pointing at the ceiling
- Sculling: efficiency of sculling, regular rhythm and pressure of sculls
- Arms: elbows don't move, lower arms and hands move in horizontal line/no push-ups, flat palms and angle between palm and lower arm is 90°, angle between upper arm and lower arm is 45°

Ballet Leg

- Legs: Extension of legs, angle between legs needs to be 90°, lower foot dry at the surface
- Upper body: shoulders pushing down and back, shoulder blades together, long and extended neck position, only the face out of the water-not the whole head, chin pointing at the vertical position, chest is at the surface
- Core: Hips near the surface
- Sculling: efficiency of sculling, regular rhythm and pressure of sculls
- Arms: elbows don't move, lower arms and hands move in horizontal line/no "up and down", flat palms-not breaking the surface-no splash

LATERAL Eggbearer + LATERAL Eggbearer Arm at 90°

- Legs: knees close to the surface, position of knee does not move, upper leg stay-lower legs move
- Movement of legs: circle movement, no extension
- Posture: shoulders pushing down and back, shoulder blades together, long and extended neck position, lifted chin position, chest is open
- Arms: opposite arm than direction of movement in a straight and stretched position

FRONT Eggbearer

- Legs: knees close to the surface, position of knee does not move, upper leg stay-lower legs move
- Movement of legs: circle movement, no extension
- Posture: shoulders pushing down and back, shoulder blades together, long and extended neck position, lifted chin position, chest is open

Side flutter kick Arm at 90°

- Upper body: straight on the surface, head on the surface looking straight at the wall
- Legs: legs and body build one straight line, legs move symmetrically: same angle of front and back leg towards the body, leg position need to be close to the surface
- Arms: straight and extended arms, palm of lifted arm facing in opposite direction of movement

1.4.2 Body Boost Barracudas

Metronome 150BPM (needs to be checked)

The swimmers will perform without break:

- 1 Body boost without arms up
- 1 Barracuda
- 1 Body boost 2 arms up
- 1 Barracuda 360°

1 mark will be given for each body boost and each barracuda following the AQUA Artistic Swimming Manual for Judges, Technical Controllers, Referees & Coaches 2022-2025. The average will be taken.

Mark starts from height; deduction will be made according to execution.

1.4.3 Height

Metronome 150 beats per minute

- Start in a vertical position under water
- Up in support scull until maximum height (tempo free but minimum 4 counts)
- 10 counts in support scull vertical position
- Down until the heels reach the surface (tempo free but minimum 4 counts)
- Up in torpedo scull until maximum height (tempo free but minimum 4 counts)
- 10 counts in torpedo scull vertical position
- Down until the heels reach the surface (tempo free but minimum 4 counts)
- Up in support scull until maximum height (tempo free but minimum 4 counts)
- 10 counts in a support scull until maximum height vertical position
- Down until under water

Following the AQUA Artistic Swimming Manual for Judges, Technical Controllers, Referees & Coaches 2022-2025, as well as Guiding scale for height, 1 mark will be given for each vertical **c)**, **f)** and **i)**. The lowest level of the 10 counts will be taken into consideration for the evaluation of the height. Lines will be drawn on the thighs of the swimmers respecting the levels mentioned in the AQUA manual.

1.4.4 Routine Set (Description will be reviewed)

The swimmer swims the Routine Set YOUTH as described and shown on the video on the website <https://www.swiss-aquatics.ch/leistungssport/artistic-swimming/piste/>

The swimmer must travel 20m during the Routine Set. Marks will be placed to show where to start and where to finish. If the 20m are not reached a deduction of 2 points will be made from the final score. No goggles are allowed.

1 mark (0.25) will be given for the execution for each hybrid, execution for all transitional movements and performance following the AQUA Artistic Swimming Manual for Judges, Technical Controllers, Referees & Coaches 2022-2025. The average will be taken.

1.4.5 Flexibility in the Water

- Ariana (splits assessment) + Walkover (back flexibility assessment).

Focus on splits flexibility in Ariana and back flexibility during Walkover (knight and arch positions) perform in figure tempo/uniform motion.

1 mark (0.1) will be given for Ariana rotation and **1 mark (0.1)** for Walkover following the criteria “guiding scale for splits” of the AQUA Artistic Swimming Manual for Judges, Technical Controllers, Referees & Coaches 2022-2025. *The average score for arch flexibility plus the split score equals the overall flexibility average.*

2. COMPETITION RESULTS

2.1 FIGURES KIDS

The best total score of the following competitions will be considered for the PISTE Figures result:

- Swiss Age Group Championships qualification – J3 figures
- Swiss Age Group Championships final – J3 figures

At all national competitions for PISTE athletes, a 2-point penalty will be applied instead of a score of "0".

2.2 FIGURES YOUTH

The best total score of the following competitions will be considered for the PISTE Figures result:

- Swiss Age Group Championships qualification – J2 figures
- Swiss Age Group Championships final – J2 figures

At all national competitions for PISTE athletes, a 2-point penalty will be applied instead of a score of "0".

3. ENVIROMENT

The athletes' environment is assessed on the basis of their affiliation with a recognized youth development base (NWF). When awarding the label, Swiss Aquatics Artistic Swimming requires NWF bases to fulfill many quality criteria for sustainable youth development (checklist). On average, athletes at NWF bases have a broader range of training opportunities, secure support, a higher level of performance in training, access to sports-friendly schools, advice from Swiss Aquatics Artistic Swimming, etc. A "non-NWF club" can also offer this under certain circumstances, but the probability of sustainability is higher at an NWF base (forecast). The environment (NWF base) is included in the evaluation with a factor of the total number of points depending on category.

4. RELATIVE AGE AND BIOLOGICAL STAGE OF DEVELOPMENT

Many characteristics of physical performance depend on the biological stage of development. Differences in the biological stage of development are the main cause of the relative age effect (RAE). By taking into account the biological stage of development, a fairer selection should take place and the promotion of athletes with the highest potential for the elite level should be better implemented. This fact is taken into account in the PISTE and the relative age (RA) and biological stage of development (BES) (with the Mirwald test: early, normal or late development) are taken into account.

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