RUNNERS 4ALL | European Students Run

eusa university sports europe

NLB LJUBLJANSKI MARATON

Co-funded by the European Union

ALL ABOUT RUNNING

Klemen Laurenčak, May 2025, Ljubljana

AGENDA

- INTRODUCTION INTO RUNNING WORLD
- HOW TO PLAN ACTIVITIES FOR RUNNING GROUP
- BASIC PRINCIPLES OF SPORT EXERCISE
- RUNNING TECHNIQUE
- HOW TO START FROM THE BEGINNING
- HOW TO TRAIN FOR 10 km, 21,1 km

INTRODUCTION INTO RUNNING WORLD

WHEN RUNNING BECOME POPULAR,…

- After Bill Bowerman published book „jogging“ in 1966, running became one of most popular sport in „Western world“.

- Running shoe industry;

- Coaching of non elite runners

- Running groups

- Specific knowledge

INTRODUCTION INTO RUNNING WORLD

BENEFITS OF RUNNING (PHYSICAL ACTIVITY):

- Better health status (heart disease, blood pressure, weight management, bone density,…);

- Better sleep (brain function, memory,..);

- Better mental health and toughness (discipline, self-confidence,…);

- Good for social aspect of life;

- Compared to some other sports is not expensive,…

INTRODUCTION INTO RUNNING WORLD

COACHING RECREATIONAL RUNNERS:

- BASIC KNOWLEDGE about running and training principles;

- GOOD IN COMUNICATION (listen, learn, advice)

- EMOTIONAL INTELIGENCE (different people needs diffrerent aproach);

- You need to be commited to learn new stuff;

- Toy need to be able to focus on long term goals

HOW TO SET GOALS WITH RUNNERS

- First, it's necessary to find out what their experiences in sports are, what activities they were involved in during their youth
- Secondly, it's important to discuss with them what they wish to achieve through running training
- Before starting, we always check their health status (injuries, allergies, asthma, etc.)
- After this conversation, we need to assess the participant's current physical condition

HOW TO SET GOALS WITH RUNNERS

- For those who are not yet running, we do not conduct tests. Running tests are intended for healthy individuals capable of running continuously for 30 minutes without any issues. If they are unable to do so, we consider them beginners and adopt a different approach for them. (we will discuss this topic later)

- For all individuals capable of greater running effort, we organize a field test to measure their performance over a specific distance.

HOW TO SET GOALS WITH RUNNERS

- Now you have knowledge about their physical performance

- Together you can set individual goals which are:

1. Specific
2. Measurable
3. Achievable
4. Relevant
5. Time-bound

Example: Half marathon race pace is around 30”/km slower than 5 km race pace

HOW TO PLAN ACTIVITIES FOR RUNNERS

- You will have one or two sessions per week with runners

- They still need to do some activities at home

RULES:
- **Training should not be too intensive;**
- **Cosistency is most important;**
- **Do not overachieve;**
- **It is a long term procces;**
- **Go step by step**

Runners need a program they can follow in their spare time!

WHAT IS ENDURANCE

- Endurance is resistance to fatigue.
- In sports, endurance means the body's resistance to fatigue during prolonged physical activity.
- Endurance is the ability to perform long-lasting activities without a decrease in effectiveness.

WHAT IS ENDURANCE DEPENDEND ON?

- Functional capabilities of the organism
- Efficiency in the use of produced energy
- Morphological factors
- Psychological factors
- Environmental factors

Functional capabilities of the organism

a) the efficiency of metabolic processes that produce energy for movement

b) the rate of removal of by-products of metabolic processes

Cardiovascular and respiratory function – the ability of the heart, blood vessels, and lungs to supply oxygen to muscles.

Efficiency in the use of produced energy

- Running technique

- Optimal coordination of movement; strength, flexibility, balance

Morphological factors

- Body weight

- Body height

Psychological factors

Perseverance (the ability to endure and overcome unpleasant sensations)

Persevering when it's hard is a matter of courage, determination, strong will, and motivation

Environmental factors

- Temperature
- Humidity
- Altitude
- Air pollution

TYPES OF ENDURANCE

General vs. Specific Endurance

General endurance: The ability to perform any physical activity for a long time, regardless of the sport (e.g., running, swimming, cycling).

Specific endurance: The ability to maintain performance in a particular sport or movement (running endurance for runners, cycling endurance for cyclists,…)

Aerobic vs. Anaerobic Endurance

Aerobic endurance: The ability to perform low- to moderate-intensity activity for a long period (with sufficient oxygen supply) – activities longer then 2 min!

- Example: long-distance running, cycling, swimming.

Anaerobic endurance: The ability to sustain high-intensity efforts for a short period (without sufficient oxygen, leading to lactate accumulation) – for activities up to 1 - 2 min!

- Example: 300m sprint, repeated high-intensity efforts in team sports.

Muscular Endurance

The ability of a muscle or group of muscles to repeatedly contract against resistance over a period of time.

- Example: doing many repetitions of a bodyweight exercise like push-ups or squats.

ENDURANCE INTENSITY LEVELS

LOW INTENSITY (Aerobic training)

MODERATE INTENSITY (Aerobic training)

MEDIUM INTENSITY (Aerobic–Anaerobic training)

HIGH INTENSITY (Anaerobic–Aerobic training)

MAXIMAL INTENSITY (Anaerobic training)

EFFORT / LOAD

EFFORT is the body's response to a given load

LOAD is a physically measurable or exercise-defined activity (amount of exercise, exercise intensity, level of cognitive demand, environmental conditions)

OBJECTIVE CRITERIA FOR PERCEIVING EFFORT (HR, VO2, La, Vf, T, v, t, W,…)

SUBJECTIVE CRITERIA FOR PERCEIVING EFFORT (Borg rating– RPE; feeling of fatigue, perception of breathing, other signs of fatigue, psychological response,…)

WHAT WILL YOU BE ABLE TO USE

OBJECTIVE CRITERIA FOR PERCEIVING EFFORT (HR, v, t, W)
- sport watch/computer; heart rate monitor – smart watch, phone,…

SUBJECTIVE CRITERIA FOR PERCEIVING EFFORT (Borg rating– RPE; feeling of fatigue, perception of breathing, other signs of fatigue, psychological response,…)

BORG RATING (RPE)

RPE	Perceived Effort	Example Description
6	No exertion at all	Resting, lying down
7–8	Extremely light	Very easy walk
9–10	Very light	Light effort, warm-up pace
11–12	Light	Comfortable, can talk easily
13–14	Somewhat hard	Moderate effort, slightly breathless
15–16	Hard	Breathing heavily, difficult to talk
17–18	Very hard	Very tiring, near maximum effort
19	Extremely hard	Can’t continue much longer
20	Maximal exertion	Absolute maximum effort

EFFORT LEVELS

- LOW INTENSITY (50 – 60 % of max HR)
- MODERATE INTENSITY (60 – 70 % of max HR)
- MEDIUM INTENSITY (70 – 80 % of max HR)
- HIGH INTENSITY (80 – 90 % of max HR)
- MAXIMAL INTENSITY (90 - 100% of max HR)

EFFORT LEVELS

ZONE	INTENSITY	% maxHR	How it feels	Activity
Zone 1	LOW	50 - 60	Very easy	Easy run, jogging, regeneration
Zone 2	MODERATE	60 - 70	Comfortable, easy to talk	Long run, easy run
Zone 3	MEDIUM	70 - 80	Challenging, hard to talk	Accelerated runs, ondulating terrain
Zone 4	HIGH	80 - 90	Hard effort, but you can manage	Aerobic intervals, tempo, race
Zone 5	MAXIMAL	90 - 100	Very hard, no talking possible	High intensity intervals, uphill running

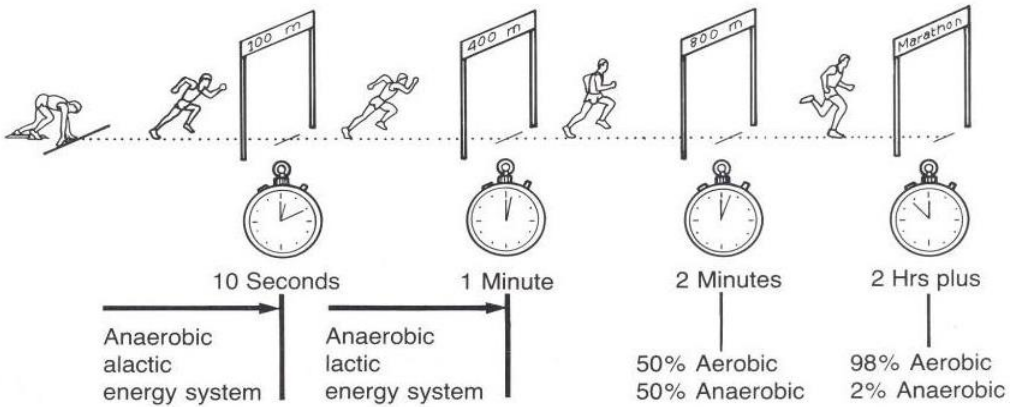
ENDURANCE DEVELOPMENT METHODS

Contribution of energy systems to time of movement

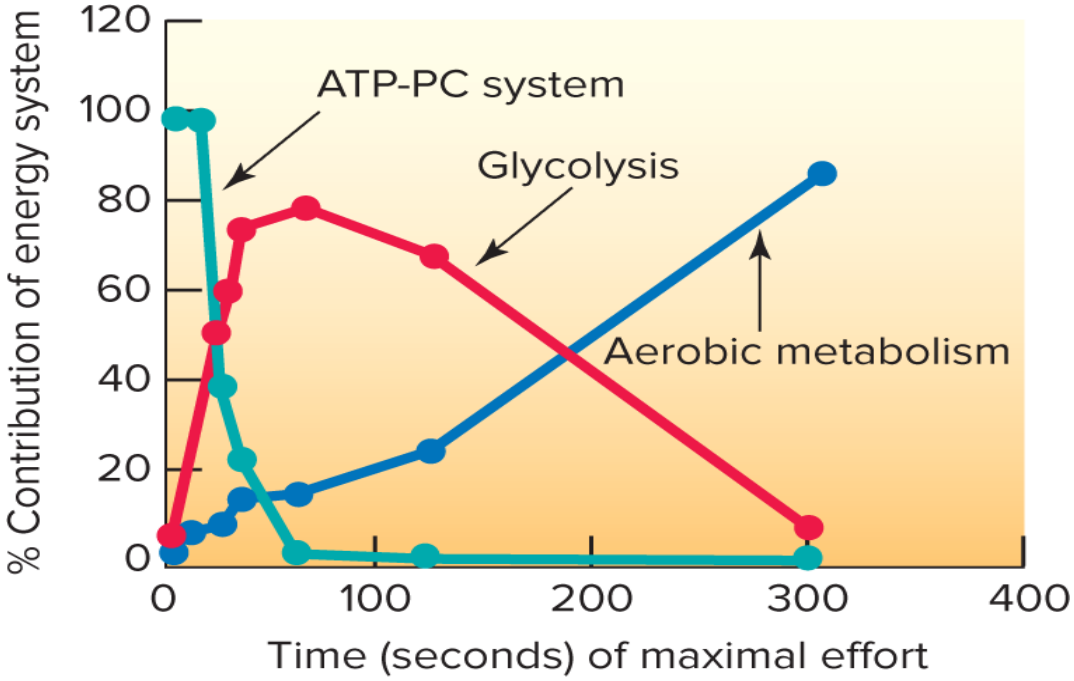
There are two important work times that mark a shift in emphasis from one of the three energy systems to another:

10 seconds--After 10 seconds of intense muscular activity the energy system providing the majority of the energy shifts from the anaerobic alactic to the anaerobic lactic system.

1 minute---After about 1 minute of intense activity the shift is away from the anaerobic lactic system to the aerobic system.



ENDURANCE DEVELOPMENT METHODS



Source: Scott K. Powers, Edward T. Howley: *Exercise Physiology: Theory and Application to Fitness and Performance*, 10e

ENDURANCE DEVELOPMENT METHODS - CONTINUOUS METHODE

- The oldest and simplest method
- The most important
- Main characteristics are high volume and low intensity

- VARIATIONS:
- Steady long-distance run
- Progressive run
- Continuous tempo run

ENDURANCE DEVELOPMENT METHODS - INTERVAL METHODE

EXTENSIVE or AEROBIC INTERVAL TRAINING

INTENSIVE (LONG AEROBIC INTERVAL TRAINING)

- 5 PARAMETERS:
- INTERVAL LENGTH (200, 400, 1000 m)
- RUNNING SPEED (4:30/km; 5:00/km, …)
- NUMBER OF REPETITIONS (6, 8, 10, 12×)
- REST DURATION (1’, 3’)
- NATURE OF REST (walking, slow jogging, standing still, …)

INTERVAL METHODE

ALACTIC INTERVAL TRAINING 4 x 30 max 3 x 60 max ...	**LONG AEROBIC INTERVALS (INTENSIVE)** 6 x 1000 10 x 800 4 x 2000 5 x 1600
LACTATE INTERVAL TRAINING 8 x 200 m 5 x 400 m 3 x 300 m	**SHORT AEROBIC INTERVALS (EXTENSIVE)** 2 x 15 x 200/100 20 x 400 20 x 300/100

ENDURANCE DEVELOPMENT METHODS - FARTLEK

FARTLEK IS COMBINATION OF CONTINUOUS METHODE AND INTERVAL METHODE

Fartlek training involves alternating between easy running and faster efforts, but unlike structured intervals, it's more unstructured and intuitive.

Mix of aerobic and anaerobic training
No strict rules on distance or time
Can include sprints, jogs, and steady runs
Often done outdoors using natural terrain and landmarks

VERY USEFULL METHODE FOR GROUP COACHING!!!

HOW TO TRAIN – ALL INFORMATIONS COMBINED

EASY RUN, JOGGING (Z1) – very slow run, short stride, high cadence, on soft surface if possible!

50 – 60% of HRmax / approx. 90 seconds per km slower than 5 km test pace

EASY RUNS, LONG RUNS (Z2) – They should start slowly and may become faster toward the end. Pay attention to step frequency and run as much as possible on soft, varied terrain!
60–70% of HRmax / approx. 80–40 seconds per km slower than your 5 km test pace

HOW TO TRAIN – ALL INFORMATIONS COMBINED

AEROBIC RUNS (Z3) – Moderately fast running, approximately the pace at which you could run a marathon. Preferably on soft surfaces!
70–80% of HRmax / approx. 70–30 seconds per km slower than your 5 km test pace

STEADY STATE + LACTATE TRESHOLD (Z4) – Maximum steady state, comfort zone. Recreational runners spend the most time in this zone! Training in this zone is pleasant, and you feel good afterward, like you've done something beneficial for yourself.
At lactate threshold, you feel like you're pushing, but in control. It's hard but steady, the sweet spot where endurance and intensity meet for performance gains.
Training in this zone should be a progression from the lower / aerobic zones! Run on varied, soft terrain.
80–90 % of HRmax / approx. 30–15 seconds per km slower than your 5 km test pace.
TEMPO RUN; PROGRESIVE RUN; EXTENSIVE INTERVAL TRAINING; FARTLEK

HOW TO TRAIN – ALL INFORMATIONS COMBINED

VO_2max (Z5) – The highest training level for recreational athletes – intervals. These workouts are done on a good surface, most often on a track.
90–100% of HRmax / approx. 15 seconds per km faster than your 5 km test pace.

- LONG AEROBIC INTERVAL TRAINING

PERFORMANCE TESTING

- LAB TESTING (VO2max, LT, VE,…)

- FIELD TESTING (Cooper test (Vo2max), Conconi test (LT), beep test, yo-yo test)

    - direct testing on certain distance (1000 m, 1500m, 2000m, 3000m, 5000m)

    - We want to test runners on distance - We want to test the runners over a distance that will take them approximately 7 to 8 minutes to complete

    - (with that kind of test, we will get estimation of their speed at VO2max)

PERFORMANCE TESTING

WHAT TO DO WITH RESULTS OF TESTING?

EXAMPLE: 1500 m – result 7:30

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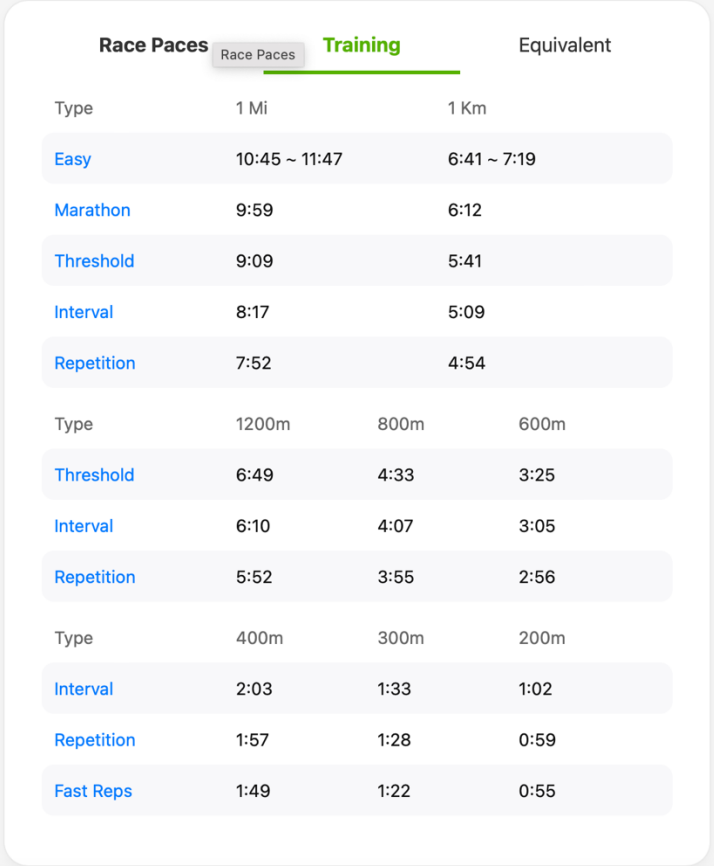

PERFORMANCE TESTING

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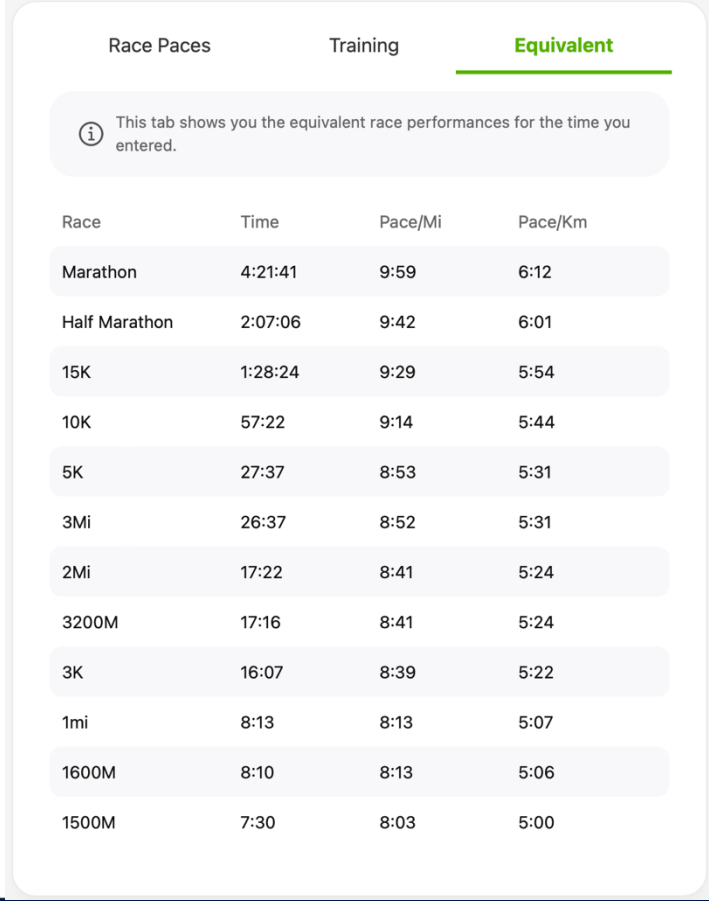

Race	Time	Pace/Mi	Pace/Km
Marathon	4:21:41	9:59	6:12
Half Marathon	2:07:06	9:42	6:01
15K	1:28:24	9:29	5:54
10K	57:22	9:14	5:44
5K	27:37	8:53	5:31
3Mi	26:37	8:52	5:31
2Mi	17:22	8:41	5:24
3200M	17:16	8:41	5:24
3K	16:07	8:39	5:22
1mi	8:13	8:13	5:07
1600M	8:10	8:13	5:06
1500M	7:30	8:03	5:00

FIRST STEPS INTO INDIVIDUALIZATION

AFTER FIELD TESTS, you will be able to organize small groups of students

1. GROUP OF BEGGINERS (Everybody who is unable to run more then 30 min without stoping and students who were not physicly active in last five years)
2. GROUP OF RUNNERS I (everyboy with 10 km prediction over 60 min)
3. GROUP OF RUNNERS II (everybody with 10 km prediction from 50 – 60 min)
4. GROUP OF RUNNERS III (everybody with 10 km prediction under 50 min)

BASIC PRINCIPLES OF SPORT EXERCISE

- PRINCIPLE IF INDIVIDUALIZATION (A good training program follows the principle of individualization, adapting to each athlete's needs and characteristics)
- PRINCIPLE OF PROGRESSION (Training must proceed gradually and systematically, with increasing load. Advancing too quickly increases the risk of overtraining or injury)
- PRINCIPLE OF VARIATION (Introducing changes in training (exercises, environment, formats) prevents monotony and mental fatigue, and enhances adaptation)
- PRINCIPLE OF SYSTEMATIZATION (According to the principle of systematic training, the development of athletic performance requires structured and progressive planning over time)

BASIC PERODIZATION FOR LM2025

- From 19.5.2025 – 19.10.2025 is 22 weeks
  - A bit less then half a year
  - Enough time to prepare begginers to run 10 km
  - Enough time to prepare runners for 21,1 km

20 weeks of training

12 weeks of basic aerobic training
+
8 weeks of specific training for running distance

BASIC PERODIZATION FOR LM2025

12 weeks of basic aerobic training includes:

- Mostly aerobic running (Z1, Z2, Z3)
- Running techinque
- Strenght exercises

8 weeks of specific training includes:

- long runs
- specific race pace sessions
- tempo runs
- interval training