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Training Journal and Diary

by Thomas Kurz

Records of what you (or your athletes) did in your workouts and what was the outcome in the short run and in the long run are necessary for planning further work. Without such records, how would you know how much of which exercises is too much and how much is not enough? What are the general trends in your conditioning and skills—is your training effective or not?

As an athlete, in your training diary you should record everything that influences your work and its results. So, typically you would write down the following:

- Time you begin and end your workout
- What exercises you did (or plan to do) and in what order
- Resistance or other measure of intensity in a single repetition
- Number of repetitions and sets, or distance, or duration of the exercise
- Duration and type of rest breaks
- How you felt before, during, and after the workout
- Conclusions about what to do in the next workout and how to do it

An example of a page from an athlete's training diary follows.

Table 1. Athlete's Diary, Sample Page (modified from Naglak 1979)

Date	Breath-holding time	Grip strength	Body weight
Heart rate in the morning	HR1*	HR2	HR3
Heart rate in the evening		Body temp. (morning)	Body temp. (afternoon)
Sleep			
Location of workout/competition		Hour	Weather
Exercises/Matches/Starts			Exercise duration/reps
a			
b			
c, etc.			
Meals	Content	Appetite	
Breakfast (hour)			
Morning snack (hour)			
Dinner (hour)			
Evening snack (hour)			
Supper (hour)			
Health complaints before workout			
Injuries during workout			
Other health complaints that occurred during workout			
Other health complaints aggravated during workout			
Gynecological observations			
General mood	Ability to work		

* HR1—HR before the workout; HR2—HR immediately after the main part of the workout; HR3—HR five minutes after the end of the main part of the workout. How to use these measurements to determine an optimal training load in everyday workouts is shown in *Science of Sports Training*.

Highlights

- **Training Journal and Diary: Keeping Training Records**
page 1, 2, 3 and 4

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The coach records workouts in a training journal as well. The journal is for recording all exercises of a workout, whether for a group of athletes or a single athlete. It may, even should, have a column for coach's notes and observations about exercises and athletes, but it does not have all the personal information each athlete records in his or her training diary.

Keeping records such as these, an athlete's diary and a coach's journal, will help avoid repeating mistakes, such as exercising too much or too little, doing ineffective exercises, or putting exercises in an inefficient or incorrect order.

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Training Journal and Diary

(continued from page 1)

Table 2. Coach's Record of a Technical-Tactical Workout for Table Tennis—Descriptive Method (Sozanski and Sledziewski, eds. 1995)

Date: Time:	Place: Weather:	Training Group:
Point no.	Exercise Description	Notes
1	Warm-up: run, jog, calisthenics—15 min	
2	Speed-endurance: run-up to the table and away, sets 6 x 15 s	
3	Speed of moving in shuffle steps over 3 m, sets 6 x 15 s, break 30 s	
4	Specific warm-up—15 min	
5	Multiple ball practice, 5 x 90 s	
6	Perfecting attack strikes (topspin from forehand from 3 points)—7.5 min	
7	Perfecting an offensive block—7.5 min	
8	Perfecting strikes, Fälkenberg drill—7.5 min	
9	Perfecting attack strikes (topspin from backhand)—7.5 min	
10	Perfecting a passive and an active block from backhand strikes—7.5 min	
11	Technical-tactical exercises, short serve, receive passive or active flip and play—20 min	
12	Perfecting serve with balls thrown high, with various rotations, speeds, and length—20 min	
13	Dynamic stretching, relaxing, calming down, static stretching—15 min	

But with such records it will be difficult to see a larger picture of your training—the proportions of different groups of exercises (general, directed, sport-specific), types of effort or zones of intensity (aerobic, anaerobic-alactacid, and so on) in any given period, and how that relates to your results in that same or in the following period.

Theoretically you could input all your entries into a database, but what if in nearly every workout you did some exercises differently? For example, in the same exercise your rest breaks got shorter or longer, or the exercise was done at a higher or a lower pace. Every such variation has a very different physiological effect on you. At some combinations of pace, duration of effort, and rest breaks it may be aerobic, and at some others it may be anaerobic-lactacid, for example. That will affect the immediate, delayed, and cumulative training effects of this exercise and therefore your work capacity in this workout, in the next workout or next few workouts, or in a competition.

Computer-Ready Method

There is a method of recording all exercises in a coach's journal that includes such information. It was developed by a team of sport scientists under the direction of Henryk Sozanski (co-author of *Explosive Power and Jumping Ability for All Sports*, published by Stadion). It permits analyzing and comparing

training by groups of exercises, by volume of training, and by intensity zones—separately and in any combination, for any workout, training cycle, or period.

To use this method, make a numbered list of all exercises you plan to do during, say, a year of training. Divide them into three groups: general exercises, directed exercises, and sport-specific exercises (see definitions in *Science of Sports Training*). You can number all your exercises consecutively and then divide them into the three groups, or number them separately within each group and add a letter before each number (e.g., G1 would denote the first general exercise, D1 the first directed exercise, S1 the first sport-specific exercise).

Exercises that have the same form of movement but differ in intensity or some other essential aspect may be given the same number with decimal points. So in the group of general exercises for table tennis, sprints up to 30 m may be listed as G5.1 and sprints from 30 m to 60 m as G5.2. Another example, from wrestling, follows:

S1.1 Hip throws—learning, repetitive method, at low intensity

S1.2 Hip throws—perfecting in-practice grappling, continuous with variable intensity method or interval method, at high intensity

S1.3 Hip throws—perfecting in-practice grappling, continuous with variable intensity method or interval method, at

submaximal or maximal intensity

In some sports it may make sense to give the same number to exercises that differ in form but have similar physiological effects. So, in rowing, all general exercises for developing muscular endurance with medium resistance, a high number of repetitions, and short rest breaks between sets may be numbered like this:

G5.1 Muscular endurance—arms

G5.2 Muscular endurance—legs

G5.3 Muscular endurance—abdomen

G5.4 Muscular endurance—back

G5.5 Muscular endurance—complex

So, you see that the way to number the exercises is up to the coach, and it depends on specifics of the sport.

When you have made the list of exercises for your sport, you should include it in your journal.

It is good to keep the same codes for the same exercises year after year so you can easily compare your yearly training records.

Nearly every exercise can be done in any one of the five intensity zones. (The exercises of the additional sixth zone, anabolic, are included in any one of the five intensity zones, depending on their intensity.) The zones of intensity are listed in Table 3.

This method of recording exercises takes into account which group each exercise belongs to (its effect on athletes' skills) and its intensity zone (its effect on athletes' energy

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Table 3. Zones of Exercise Intensity (Sozanski and Sledziewski, eds. 1995)

Intensity Zone	Heart Rate		Method	Training Load Characteristics						Typical Tasks
	Before	After		Intensity	Effort duration	Rest duration between reps	Reps (number)	Sets (number)	Rest duration between sets	
1 Aerobic		~ 65% HR _{max} (~ 120 bpm)	repetitive	very low	no limits		many			coordination, flexibility, etc.
		< 70% HR _{max} (< 140 bpm)	continuous constant	low	no limits					recovery
2 Aerobic	70% HR _{max} (130–140 bpm)	< 85% HR _{max} (160–180 bpm)	continuous constant	moderate	1–10 min					endurance for efforts of long and intermediate duration
			continuous variable	high	30–60 s					
			repetitive	high	5–20 min	over 5 min	2–12			
			interval	high	1–4 min	30–90 s	over 10			
3 Aerobic-anaerobic	60–70% HR _{max} (120–130 bpm)	> 90% HR _{max} (>180 bpm)	continuous variable	high	up to 60 s					endurance for efforts of intermediate and short duration, strength-endurance
			continuous variable	very high	up to 30 s					
			interval	high	60–90 s	30–90 s	3–10	1–4	10–15 min	
			interval	very high	20–60 s	up to 60 s	5–10	2–4	10 min	
			repetitive	very high	2–10 min	2–5 min	2–12			
4 Anaerobic-lactacid	55–60% HR _{max} (110–120 bpm)	> 95% HR _{max} (>190 bpm)	repetitive	very high	20–60 s	over 5 min	2–12			speed-endurance, strength
			interval	very high	20–60 s	e.g., 4, 3, 2 min	3–4	2–4	10–15	
			interval	very high	20–30 s	60–90 s	4–5	4–5	10–15	
			repetitive	near maximal	30–90 s	until recovery	1–5			
5 Anaerobic-alactacid	45–50% HR _{max} (90–100 bpm)	65–90% HR _{max} (130–180 bpm)	repetitive	near maximal	up to 30 s	until recovery	3–6			speed, strength
			interval	near maximal	10–20 s	30–90 s	6–12	3–5	6–10	
			repetitive	maximal	up to 20 s	until recovery	5–10			
			repetitive	maximal	3–10 s	1–2 min	1–5			
6 Anabolic	HR very varied		repetit. & inter.	according to the selected method of strength training						muscle mass

Table 4. Technical-Tactical Workout for Table Tennis Recorded Using Listed Groups of Exercises (Sozanski and Sledziewski, eds. 1995)

Point no.	Exercise no.	Time	Exercise Description	Notes
1	G1	15 min	Warm-up	
2	D1	1.5 min	Run-up to the table and away, sets 6 x 15 s	
3	D2	1.5 min	Shuffle steps over 3 m, sets 6 x 15 s, break 30 s	
4	S1	15 min	Specific warm-up	
5	S8	7.5 min	Multiple ball practice, 5 x 90 s	
6	S2.1	7.5 min	Attack: topspin from forehand from 3 points	
7	S6	7.5 min	Offensive block	
8	S2.1	7.5 min	Fälkenberg drill	
9	S2.1	7.5 min	Attack: topspin from backhand	
10	S6	7.5 min	Passive and active block	
11	S9	20 min	Technical-tactical exercises	
12	S7.3	20 min	Serve, high balls	
13	G2	15 min	Stretching	

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Table 5. Matrix of Encoding Training Loads for Table Tennis (Sozanski and Sledziewski, eds. 1995)

Exercise Group	Intensity Zone						Σ 1 . . . 5 (in min)
	1	2	3	4	5	(6)	
General	G1, G2, G4.1, G7.1	G4.2, G6, G8.1	G7.2	G3.1, G3.2, G3.3, G5.1, G5.2, G8.2, G9.2	G9.1		
Directed	D4			D1	D2, D3		
Sport-specific	S1, S2, S4, S5, S6, S7, S7.1, S7.2, S7.3, S8.1, S10.1	S3, S11.1	S2.1, S9.1, S10.2	S8, S11.2	S9.2, S11.3		
Σ G, D, S (in min)							Total time

Table 6. Workout Record—Using a Matrix of Encoding Training Loads (Sozanski and Sledziewski, eds. 1995)

Exercise Group	Intensity Zone						Σ 1 . . . 5 (in min)
	1	2	3	4	5	(6)	
General	G1—15 G2—15						30
Directed				D1—1.5	D2—1.5		3
Sport-specific	S1—15 S6—7.5, S6—7.5 S7.3—20		S2.1—7.5 S2.1—7.5 S2.1—7.5 S9.1—20	S8—7.5			100
Σ G, D, S (in min)	80		42.5	9	1.5		Total 133

systems). It uses only one indicator of training load—the time of performing a given exercise.

Total training load is the sum of the time of performing exercises from all three groups in five intensity zones. The time in the sixth zone, the anabolic zone, is not added to the total because its exercises are appropriately included in one or more of the five intensity zones.

Tables 4 and 6 show how workouts are recorded with this method. Table 5 shows the matrix of encoding loads for table tennis.

When input into database software, these data can be arranged to show the total training load in any training cycle or period; the time spent on general exercises, directed exercises, and sport-specific exercises; the time spent on exercises in any intensity zone; or any combination of these (e.g., the time spent

on sport-specific exercises in the fourth intensity zone, or the time of all exercises in the fifth intensity zone). You can compare work done by one athlete or by several athletes at different training stages.

You can use both methods of recording workouts to generate the most detailed record. Table 4, on page 3, shows how the encoding method and a traditional description of exercises can be used in the same journal.

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