‘B-FIT’ TRAINING GUIDE

Appendix 5

APPENDIX 5. EVALUATING THE EFFECT OF EXERCISE ON PHYSICAL FITNESS.

The test results of the submaximal exercise test can also be used to determine the effect of exercise on physical fitness. The aerobic exercise evaluation form can be used for this purpose (see below).

In the diagram, the values for the heart rate and RPE scale on the submaximal exercise test score form can be entered for the time points before, during and after the exercise program (see the evaluation form below). A more reliable method, however, is to calculate the average heart rate over the last 30 seconds of each load level and to record this data on the evaluation form. This requires the heart rate not only to be monitored during the exercise test, but also recorded, so that the data is available after the test to determine the average values over the last 30 seconds. Indicators of improved physical fitness after the exercise program are when:

- A lower heart rate at similar submaximal exercise workloads.
- A lower score on the RPE scale at similar submaximal exercise workloads.
- The anaerobic threshold occurs at a higher exercise workload.
- The stop criterion is reached at a higher exercise workload.
- A faster recovery in heart rate occurs after the end of the exercise test.
- A faster recovery on the RPE scale occurs after the end of the exercise test.

Graphical display of exercise results

An Excel template can be found on the B-FIT website with which a graphical representation of the achieved exercise effects can easily be obtained (Fig. 1).

1. Go to the following link:
   https://www.amc.nl/trainingguide

2. Open the file: "*Training results*".

3. Enter the date and time the exercise tests were conducted.

4. Enter the exercise workload. Note that the value for rest must remain at -10. For recovery, the entered load values must always be higher than the highest value of the increasing load. For example, in Fig. 1, the highest value for the increasing load is 80 W. Therefore, the values 100, 110 and 120 W are used for recovery.

5. Enter the heart rate and RPE score corresponding with the various load steps. The values will be shown automatically in the figures.

6. Check which indications there are for improved aerobic capacity. Take into account both the results of the exercise tests and the personal experiences of the patient.

Submaximal exercise test

Time		Workload	Heart rate			RPE score		
			29/03/2016	31/05/2016	26/07/2016	29/03/2016	31/05/2016	26/07/2016
			10:00u	*10:00u*	*10:00u*	*10:00u*	*10:00u*	*10:00u*
Rest								
	0-3	-10	101	79	73	7	7	6
W-up								
	3-6	0						
Ascending workload								
	6-7	10	103	90	78	8	7	6
	7-8	20	106	93	81	9	8	7
	8-9	30	112	99	85	9	9	9
	9-10	40	125	109	94	10	10	9
	10-11	50	133	115	105	12	12	11
	11-12	60	140	122	113	15	14	12
	12-13	70	146	134	126	16	16	15
	13-14	80		143	132		17	17
	14-15							
	15-16							
	16-17							
	17-18							
	18-19							
	19-20							
End test								
Recovery								
	Herstel - 1	100	118	132	99	9	10	9
	Herstel - 2	110	119	112	93	8	10	6
	Herstel - 3	120	112	103	87	7	8	6

Indications for increased aerobic capacity	
Submaximal heart rate	reduced
Submaximal RPE score	reduced
Anaerobic treshold	increased
Peak workload	increased
Recovery heart rate	unchanged
Recovery RPE score	accelerated

Experiences

Tough at the start, particularly high intensity (2nd part better of training program was better, after adjustments of training zones)
Is feeling fitter, less fatigued
No complications after training
Increased activiy in daily life

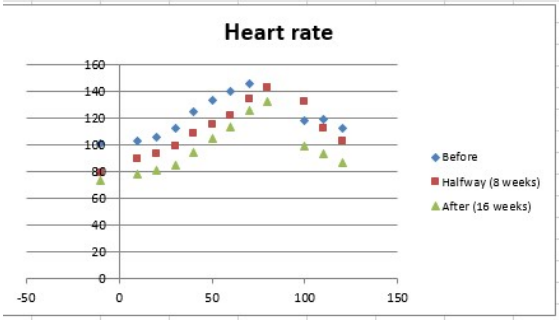

Figure 1. Display of exercise results based on the three exercise tests. Note that the template consists of a single tab, but for legibility it is shown here as two separate parts

EVALUATION FORM AEROBIC EXERCISE WITH NMD.

Time (min.)	Load	Pace	Heart rate (beats/min)			RPE scale		
			Before	During	After	Before	During	After
Rest								
0 – 3	N/A							
Warming-up								
3 – 6	Minimal							
Increasing load								
6 – 7								
7 – 8								
8 – 9								
9 – 10								
10 – 11								
11 – 12								
12 – 13								
13 – 14								
14 – 15								
15 – 16								
16 – 17								
17 – 18								
End of test								
Stop								
Recovery phase								
Recovery	Minimal							

SCORE FORM FOR SUBMAXIMAL EXERCISE TEST BEFORE THE EXERCISE PROGRAM (1).

Name: ……Date of birth: ……

HR_{rest}: …… HR_{max} (220 - age): ……

HRR (HR_{max} - HR_{rest}): …… THR (HR_{rest} + 0.8*HRR): ……

Time (min.)	Load	Heart rate (beats/min)	RPE scale	Pace
Rest				
0 – 3	N/A			
Warming-up				
3 – 6	Minimal			
Increasing load				
6 – 7				
7 – 8				
8 – 9				
9 – 10				
10 – 11				
11 – 12				
12 – 13				
13 – 14				
14 – 15				
15 – 16				
16 – 17				
17 – 18				
End of test				
Stop				
Recovery phase				
Recovery - 1	Minimal			
Recovery - 2	Minimal			
Recovery - 3	Minimal			

SCORE FORM FOR SUBMAXIMAL EXERCISE TEST BEFORE THE EXERCISE PROGRAM (2).

Reason for terminating the test:

☐ THR achieved
☐ Score on RPE scale ≥16 (for beta-blocker users)
☐ Pace insufficient
☐ Other, (please specify)

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Ergometer settings:

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Specifics:

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SCORE FORM FOR SUBMAXIMAL EXERCISE TEST HALFWAY THE EXERCISE PROGRAM (1).

Name: ……Date of birth: ……

HR_{rest}: …… HR_{max} (220 - age): ……

HRR (HR_{max} - HR_{rest}): …… THR (HR_{rest} + 0.8*HRR): ……

Time (min.)	Load	Heart rate (beats/min)	RPE scale	Pace
Rest				
0 – 3	N/A			
Warming-up				
3 – 6	Minimal			
Increasing load				
6 – 7				
7 – 8				
8 – 9				
9 – 10				
10 – 11				
11 – 12				
12 – 13				
13 – 14				
14 – 15				
15 – 16				
16 – 17				
17 – 18				
End of test				
Stop				
Recovery phase				
Recovery - 1	Minimal			
Recovery - 2	Minimal			
Recovery - 3	Minimal			

SCORE FORM FOR SUBMAXIMAL EXERCISE TEST HALFWAY THE EXERCISE PROGRAM (2).

Reason for terminating the test:

☐ THR achieved
☐ Score on RPE scale ≥16 (for beta-blocker users)
☐ Pace insufficient
☐ Other, (please specify)

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Ergometer settings:

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Specifics:

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SCORE FORM FOR SUBMAXIMAL EXERCISE TEST AFTER THE EXERCISE PROGRAM (1).

Name: ……Date of birth: ……

HR_{rest}: …… HR_{max} (220 - age): ……

HRR (HR_{max} - HR_{rest}): …… THR (HR_{rest} + 0.8*HRR): ……

Time (min.)	Load	Heart rate (beats/min)	RPE scale	Pace
Rest				
0 – 3	N/A			
Warming-up				
3 – 6	Minimal			
Increasing load				
6 – 7				
7 – 8				
8 – 9				
9 – 10				
10 – 11				
11 – 12				
12 – 13				
13 – 14				
14 – 15				
15 – 16				
16 – 17				
17 – 18				
End of test				
Stop				
Recovery phase				
Recovery - 1	Minimal			
Recovery - 2	Minimal			
Recovery - 3	Minimal			

SCORE FORM FOR SUBMAXIMAL EXERCISE TEST AFTER THE EXERCISE PROGRAM (2).

Reason for terminating the test:

☐ THR achieved
☐ Score on RPE scale ≥16 (for beta-blocker users)
☐ Pace insufficient
☐ Other, (please specify)

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Ergometer settings:

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Specifics:

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