Section 12 :

Tests

Baseline Tests

Whatever your training goals you will want to know how you are progressing. A simple way to keep a check on your progress is to do some baseline tests at regular intervals during your training. Every two or three months is generally sufficient, though you may wish to update information more frequently, say every six weeks.

Outlined below are a series of monitoring tests. The first four can be done by anyone who is in good health and reasonably fit, but Test 5 - The Step Test is very demanding and intended for those who are fit and in serious training for competition. There are also a series of physiological tests that can be used to monitor training. These can be found in Physiological Tests in Section 3.

Test 1 - Check Your Heart Rate

Record your resting heart rate (RHR) first thing in the morning before you get out of bed. As your fitness improves, your RHR should progressively come down. A sudden increase of around five to ten beats per minute could signal the onset of illness before other symptoms appear. It may also indicate that you may not be coping well with the training load. In this instance, suspend training and seek professional advice.

Test 2 - Timed Pieces

Select a set piece - time or distance (i.e. four minutes or 1,000m) - and record your performance as indicated on the Performance Monitor. Intervals of no less than six weeks are recommended between test pieces.

Test 3 - Anaerobic Capacity Test

This is a 20 second test which monitors the ability of the athlete to produce a lot of power in a short period of time. Set the damper at 5, the monitor on 20 seconds and row at maximum power and high rate. Record the distance covered.

Test 4 - Maximum Power Test

This is a five stroke test which measures the peak power produced. Set the damper at 5, the monitor on 500m Pace and build the intensity and stroke rate over three strokes, then row at maximum power and speed for five strokes. Record the fastest pace (lowest 500m split). Make sure you row full length strokes during this test.

Test 5 - Step Test (for competitors only)

This is an incremental step test used to determine the athlete's current anaerobic threshold. It is physically **very** demanding, but does give a lot of information. You will need a heart rate monitor linked to the Indoor Rower.

Step Test

Test Protocol

For any given load, there is an energy cost known as the metabolic equivalent, measured in Mets. An increase of 25 watts on the Indoor Rower is approximately equivalent to one Met and will bring about an increase in oxygen consumption of 3.5ml/kg/min.

The steps used for this test are displayed in Table 12.1 in terms of Pace/500m and approximately relate to 25 watts/1 Met increments. The test consists of five four minute pieces, each rowed at a consistent 500m pace. The load is increased for each step as shown in Table 12.1.

The first four minute step should be set at a level which will allow you to complete the four minutes comfortably with no signs of distress. Rest for 30 seconds between each step and record the details as illustrated in Tables 12.2 and 12.3. Note: if the monitor is set for four minutes work and 30 seconds rest, all information is stored for recording at the end of the test (see The Performance Monitor in Appendix). During each step, the heart rate will rise, but should stabilise after around three minutes. This is called steady state.

In subsequent tests, improvement in endurance is indicated when you find that your heart rate is lower for any given step; your heart is doing less work for the same pace/effort.

Table 12.1

Model C 500m Pace/Watts Conversion Table												
500m	4:01.0	3:11.3	2:47.1	2:31.8	2:20.9	2:12.6	2:06.0	2:00.5	1:55.9	1:51.9	1:48.4	1:45.3
Watts	25	50	75	100	125	150	175	200	225	250	275	300
500m	1:42.5	1:40.0	1:37.7	1:35.6	1:33.7	1:32.0	1:30.3	1:28.8	1:27.4	1:26.0	1:24.7	1:23.6
Watts	325	350	375	400	425	450	475	500	525	550	575	600

How to Select Steps for the Step Test

To determine the appropriate start level, you will need to know your current 2,000m time. Using Table 12.1, select the nearest step to your 500m split time for 2,000m. To determine your Step 1, count back six steps. After rowing 4 minutes at Step 1 move up to the next step, and so on, until Step 5 which should be performed flat out to elicit a predicted 2,000m time. If your 2,000m time is slower than 9:30 you must select 4:01 as your Step 1 as this is the lowest starting point for the Step Test.

The following is an example of an athlete who rows 2,000m in 6:32. Average 500m split = 1:38. Nearest split below this figure is 1:39. Starting level (Step 1) is six steps back = 1:59. Step 2 = 1:54. Step 3 = 1:50. Step 4 = 1:47 (just above anaerobic threshold). Step 5 is done flat out to give a predicted 2,000m time.

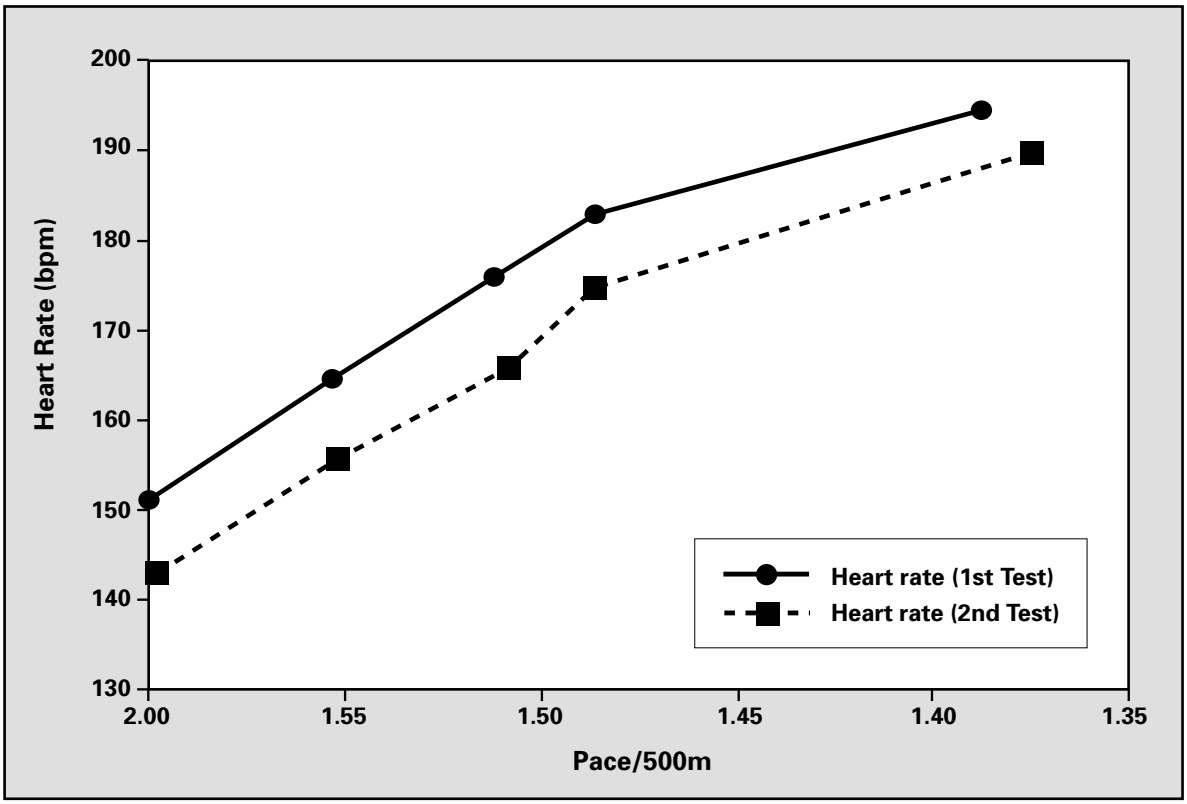
Table 12.2

First Test Results					
Date: 18th Nov	**Step 1**	**Step 2**	**Step 3**	**Step 4**	**Step 5**
Set Pace/500m	2:00.5	1:55.9	1:51.9	1:48.4	MAX
Distance (m)	1000	1035	1074	1107	1221
Stroke Rate (spm)	23	24	25	26	31
Heart Rate (bpm)	151	165	177	183	194
Actual Pace/500m	2:00.0	1:56.0	1:51.8	1:48.4	1:38.2

Table 12.3

Second Test Results					
Date: 23rd July	**Step 1**	**Step 2**	**Step 3**	**Step 4**	**Step 5**
Set Pace/500m	2:00.5	1:55.9	1:51.9	1:48.4	MAX
Distance (m)	1001	1037	1076	1108	1232
Stroke Rate (spm)	22	24	25	25	32
Heart Rate (bpm)	143	154	166	175	189
Actual Pace/500m	1:59.9	1:55.8	1:51.6	1:48.4	1:37.4

The graph below shows how the plotted line for the second test indicates heart rate is lower at each point. This indicates that the training programme has had a positive impact in terms of increasing the athlete's ability to perform at a lower heart rate for a given work load.



Frequently Asked Question on the Baseline Test

answered by Terry O'Neill

Should I look to carry out a baseline or step test before starting a new cycle of training?

It is always a good idea to take a baseline test at the start of a programme to see where you are. However, there are a couple of things you need to take into consideration.

If you are starting from scratch then the baseline data is relevant. If you are pretty fit at the moment and have competed recently you may find that the training in the preparation period may actually cause a drop in your test performance. This is nothing to worry about and is a reflection of the high intensity work completed recently. What you are doing is going back to basics and building a stronger foundation in the hope that you can go higher than before.