Rate of Perceived Exertion (RPE)

Introduction
Originally development by Borg the RPE scale is a way of measuring physical activity intensity level. Perceived exertion is how hard you feel like your body is working. It is based on the physical sensations a person experiences during physical activity, including increased heart rate, increased respiration or breathing rate, increased sweating, and muscle fatigue. Although this is a subjective measure, a person's exertion rating may provide a fairly good estimate of the actual heart rate during physical activity (Borg, 1998).

The original scale is based on a larger spread of points (figure 1) however in practice it can be hard for individuals to select an appropriate intensity with such a range of numbers therefore the 1-10 scale has been successfully used in most athletic settings.

6  No exertion at all
7  Extremely light (7.5)
8
9  Very light
10
11 Light
12
13 Somewhat hard
14
15 Hard (heavy)
16
17 Very hard
18
19 Extremely hard
20 Maximal exertion

Figure 1
Rate of Perceived Exertion (RPE) 6-20 scale
Application
When considering a programme of exercise it is important to take into account a number of factors which will affect the outcome of the sessions. These include; frequency, intensity, and duration. As we know the RPE scale is a measure of intensity.

In order for the body to adapt or improve following exercise there has to be progressive overload. In other words you have to keep challenging the bodies physiology sufficiently enough to make it want to change. Intensity is one of the corner stones in achieving great exercise results.

If intensity is too low there will be insufficient stimulus on the body for adaptation to occur. Although rest is essential and low intensity training has a role in a athletic programme constant state low intensity exercise is maintained for many months the progression of your fitness will be minimal.

RPM™ is designed to be an interval based programme, which encourages large changes in intensity. It is not designed to be performed at one steady state. There will be periods of high and very high intensity where you will experience breathlessness, fatigue, high heart rate and feelings of discomfort. These should result in an RPE score of 8, 9 and 10, but are only performed for short periods of time (<2min). The recovery periods will be seated and using less resistance or cadence and they will results in an RPE score of 4, 5, and 6. By using these large changes in intensity you will maximise the physiological affect of the body.

In Practice
The use of RPE requires no equipment and as such become a popular measure of intensity where heart rate monitoring is not available. It can be used in any environment (Group Exercise Class or Personal Training Session) and can be used by the instructor/ trainer to tailor the programme more suitably for the individuals who participate.

Criticisms of the RPE system include its subjectiveness. It could be said it reliability is down to the user accurately interpreting the feelings they are having. Take this example;

a participant, who is a beginner to exercise, will lack a reference point as to what 10 out of 10
should feel like. So when they experience some changes to breathing and heart rate they may over estimate the RPE value.

Usually, with experience, the participant will learn how their body responds to exercise and what the feelings of increasing intensity are.

**Conclusion**
The RPE scale has been proved in laboratory and field settings to be a valid tool in assessing exercise intensity. It does rely on subjective feelings but this can be overcome with experience and honest evaluation of effort.

Whether an instructor uses it in an exercise programme or not it would be prudent for participants to consider how hard the work during an exercise session in order to maximise their improvements therefore fitness.

Reference


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