

Age graded tables – Peter Sandery

It doesn't take a lot of imagination to realise that a 70 year old runner is not going to be able to achieve the same race times as an elite 25 year old. Similarly, a 60 year old high jumper is not going to be able to match the performance level they may have achieved as a young adult. Age related physical changes in the body slowly, but surely degrade performance and any masters athlete who expects to be able to maintain the race times of their youth is doomed to disappointment. We have to accept that we will slow with age and the issue is not with this fact, but with how much we can expect to slow with each additional year. A similar question applies to field event athletes. If we were able to achieve a certain level of performance relative to the best in the world as a young adult, what corresponds to the same relative level of achievement when we are masters age athletes?

In the 1970s, the World Association of Veterans Athletes (WAVA) compiled a set of tables which can be used to compare performances at different ages for track & field, racewalking and long distance running events. Using running as an example, a set of **event standard times** was established for males and females for each distance for all ages from 8 to 100 (with open class performance from age 20-29). These standards were essentially based on times that approximate world record performances for each age in each event. For each event, performance was plotted against age to give a set of curves that one would expect for a smooth progression with age, with adjustments for a small number of results that were inconsistent. The tables have been revised when accumulated data on performances indicated that change was necessary. WAVA is now World Masters Athletics (WMA).

For an individual athlete, perhaps the best way of using the age graded tables is to calculate an **age graded percentage** for a result. This is simply the event standard for your age divided by your result for that event, multiplied by 100 to give a percentage. As an example, suppose a 55 year old male 1500m runner achieved a time of 5:05 (or 305 seconds). Using the version of the age graded tables developed in 2006 and now accepted by WMA (the previous set of tables was developed in 1994), the standard time for a 55 year old male for 1500m is 251.8 seconds. The age graded percentage is therefore $100 \times 251.8/305 = 82.6\%$

You can use your age graded percentage results in several ways. If you are able to maintain the same age graded percentage for an event each year then, relative to all other athletes your age, you are maintaining your level of performance (regardless of the fact that your actual time for the event will usually be increasing). In effect, the age graded percentage is a measure of how well you are doing compared to the best in the world at your age. A record of your age graded performances in each of your events over a period of years allows you to assess whether or not you are improving, maintaining or losing relative performances.

If you know that your current age graded percentage in a track event is say 78% and you want to achieve 80% in the coming year, you can use the age graded tables to determine

what time you need to run to achieve that level. This can then be used to plan a training program aimed at that target time.

You can also use your age graded percentage to compare yourself with athletes either younger or older than yourself (if you know their race times) - 60 year old and 35 year old athletes with the same age graded percentage for an event can be considered as achieving at the same level. While that may be cold comfort for the masters athlete when actual times are compared, it is the only realistic measure that a masters athlete can use to determine whether or not he/she is performing at a given level.

If you are interested in competing in masters athletics meetings at various levels, your age graded percentage will give you a good measure of how competitive your performances are likely to be. The following age graded percentage levels provide a guide to relative performance levels:

Over 100% = approximate world record level*
Over 90% = world class
Over 80% = national class
Over 70% = state class
Over 60% = local class

(*WMA recognises world records in five year age groups, not individual ages. WR holders therefore have a better chance of achieving a world record when they are at the bottom of an age group)

When the tables are revised, 100% age graded is usually set above current world record performances. For example, in the 2006 tables, the standard time for M60 for 1500m is 262.59 seconds, or 4min 22.59sec. The equivalent world record (as of early 2006) is 4min 27.65sec, set in Brisbane in 2001 (Ron Robertson, NZ). The W40 standard time for 200m is 22.62sec and the world record for W40 for 200m is 22.72sec, set in 2004 (Merlene Ottey, SLO).

You can use the levels above as targets if your goal is to achieve a first three finish in an event at, for example, a national or world masters championship. In practice, only a small number of athletes achieve an age graded result of 90% or more in a national or even world championship event.

The age graded percentages for field events tend to be a little lower than those for running and racewalking. This is because field events are more technical than track events and often yield a much wider spread of results than track events, even at elite levels.

The age graded tables also include performance data expressed in another way as **age factors** which provide a way of directly comparing performances to open level performances. For example, from the tables, the F55 age factor for 10km is 0.8195. If a 55 year old woman runs 10km in 50:30 (50.5 minutes), the equivalent open performance is $0.8195 \times 50.5 = 41.38$ minutes.

The software that is used to process the results for SA Masters meetings includes a module to calculate age graded percentages so you can compare yours with those of other competitors in your event or in other events.

The SA Masters summer program includes an age graded percentage night where the winner is the person (male or female) with the highest age graded result, regardless of the event or the actual age of the person. Using age graded tables to determine the outcomes of an event or range of events motivates all competitors to compete at their highest level because simply winning an event may not be good enough. If the event is a track race, sitting behind another competitor and then putting in a burst at the end to win will not achieve the highest age graded result the person is capable of and another older athlete in the same event may run a better time in terms of age graded percentages. While there are arguments for and against their use, age graded percentages are the most objective way we have of comparing performances across a range of events and ages.

There are several web sites that provide age graded calculators that you can use to determine your age graded percentage for an event. All you have to do is to enter whether you are male or female, your age, the event and your performance in that event. One such site is:

<http://www.howardgrubb.co.uk/athletics/wmalookup06.html>