

## Tapering and peaking for the final victory by Philip Tan

Tapering is a training technique commonly utilized before competition to progressively reduce the **training load** for a period of time. The purpose of the taper is to allow the runner to recover from accumulated training stress both physiologically and psychologically, hence optimizing performance on race day.

The biggest challenge in tapering is really to find the strategy to maximize the decrease in accumulated fatigue yet not stepping into the realm of detraining.

### Research has shown the following benefits of tapering:

- a) A temporary increase in aerobic capacity (VO<sub>2</sub>max) from 6.5% to as much as 9.1%
- b) An increase in stored muscle glycogen (your fuel) by as much as 15%
- c) Increases in strength and power
- d) Overall improvement in race performance of elite runners by as much as 6%

### Understanding the training load

Training load = **Frequency X Volume X Intensity**

- **Frequency** = how many sessions you run a week
- **Volume** = how far you run per session
- **Intensity** = how hard are you running

There is a consistent agreement among most studies that to reap the benefits of tapering, running intensity should remain the same or even slightly increased. On the other hand, training volume should be progressively reduced by 40 – 60% while frequency is kept at no less than 80%.

### How long should I taper?

Once again, recommendations cannot be given with extreme precision as findings from research remain unclear. Generally performance gains are observed from a 2-week to 3-week taper. The guideline for the taper duration is to observe the volume reduction and pre-taper training load:

- Greater reduction in training volume = shorter taper duration.
- Greater pre-taper training load (amount of training) = longer taper duration.

### Types of taper

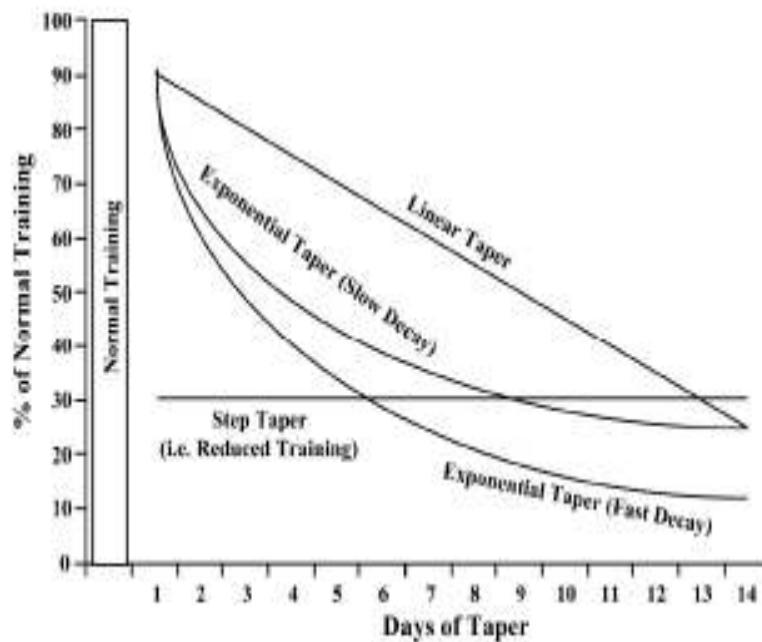


Figure 1. Schematic representation of the different types of tapers: linear taper, exponential taper with slow or fast time constants of decay of the training load, and step taper. Reproduced with permission from Mujika and Padilla (2003).

- **Step taper** = involves a complete & immediate decrease in training volume (e.g. decreasing volume by 30% on 1<sup>st</sup> day of taper & maintaining that throughout the entire taper period).
- **Linear taper** = decreasing volume in a progressive linear fashion.
- **Exponential taper** = decreasing volume in a non-linear fashion. Classified as fast or slow decay.

It remains unknown which type of taper has the greatest benefits for the endurance athletes. Most exercise physiologists and running coaches employ the Linear Taper for runners as it has the slowest rate of decline and therefore comprises a greater training load than the rest of the tapers. This would minimize chances of detraining.

### Summary points for optimal tapering

- 1) Ensure precise planning and monitoring.
- 2) Maintain or increase training intensity slightly.
- 3) Reduce training volume by 40 – 60%.
- 4) Maintain training frequency at > 80%.
- 5) Employ the linear taper for a period of 10 to 21 days.
- 6) Individualize your tapering program whenever possible.
- 7) Rule of the thumb: if you have not been training much, you won't need to taper much.

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