

A **polarised** training plan framework

*A brief practical guide
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With the exception of the cited literature, the following content is to be considered anecdotal. You should never blindly adopt this or any other training strategy without first considering your individual fitness and health. In no way does the content of this document constitute medical advice, nor does it replace such advice. Regarding concerns related to your health you should always consult professional medical personnel.

A polarised training plan structure

This 9 week polarised training plan is described in detail in a 2014 paper published in *Frontiers in Physiology* by Stöggl and Sperlich (1).

The authors report a 12% increase in VO₂ max and 8% improvement in threshold power after 9 weeks of polarised training for well-trained and competitive endurance athletes (including cyclists and triathletes).

The training plan

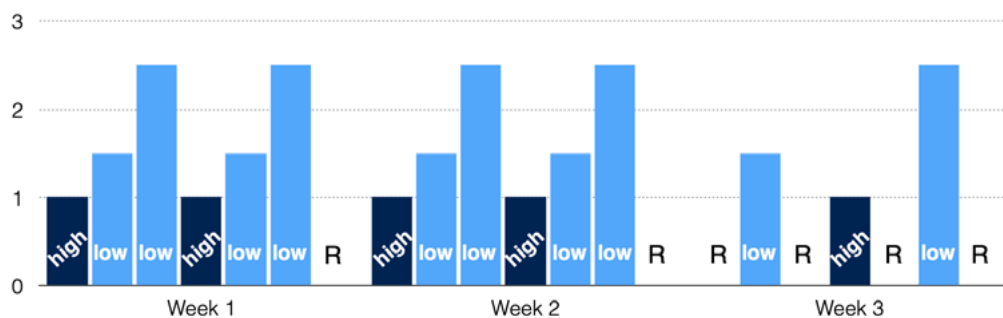
The polarized program undertaken in the above study consisted of three cycles of 3 weeks.

Cycles were organised as an initial 2 weeks focusing on inducing high loads of training stimulus with a polarised distribution of intensity. Each of the two weeks included a total of 6 sessions; 2 high-intensity intervals and 4 low-intensity sessions.

Each 3-week cycle was then concluded with a final recovery week with reduced training loads. This included 1 high-intensity interval session and 2 low-intensity workouts.

To compare the polarised plan to other methods, separate groups of athletes performed plans with either high intensity interval, moderate intensity or high volume focus.

The following 3-week cycle was completed 3 times.



R = rest day

adapted from [Stöggl & Sperlich 2014](#)

The intervals

In their original paper, the authors never explicitly state which interval sessions were performed by the group that undertook this polarized training plan.

The only description included in the paragraph on the polarised intervals states that they performed “two 60 min HIIT sessions”.

However, in the above paragraph concerning the group that followed a HIIT training model, the authors state:

“All of the HIIT sessions included a 20 min warm-up at 75% of peak heart rate, 4x4 min at 90-95% of peak heart rate based on the protocol proposed earlier.”

I therefor assume that the polarized group too performed the 4x4 intervals, although I cannot say this for certain.

The low intensity sessions

The low-intensity workouts for the initial two weeks of the 3-week block consisted four 150-240 minute workouts which included six to eight maximal sprints of 5 seconds. Sprints were separated by at least 20 minutes.

The remaining four low-intensity sessions were 90 minutes in duration.

The recovery week included one 120-180 minute and one 90 minute low-intensity session.

A comment on the results

If my assumption on the use of 4x4 minute high-intensive intervals is correct, that makes for an interesting discussion.

Although proven effective, one could question whether this format of “long” intervals is the best way of executing high-intensity training. As I have recently discussed, the 4x4 (and 4x5) minute interval has been outperformed significantly by the 4x8 minute and 30/15 second workouts in studies by Seiler et al and Rønnestad et al (2-3).

Despite this fact, the well-trained riders in this study achieved a substantial improvement in performance (+12% VO₂ max and +8% threshold power). This is a strong statement to the short-term potency of the polarised training model.

At the same time, it makes you wonder how big the changes could have been if they performed the 4x8 or 30/15 session.

I reckon it would be an appealing though for amateur riders to adapt the polarized model from this study, and replace the HIIT intervals with either the 4x8 or 30/15 workout.

What if I don't train 11 hours a week

The above training plan adds up to an average training volume of about 11 weeks. However, it can very easily be modified to suit lower training volumes.

I would suggest the two weekly interval sessions can be performed successfully by most riders, as long as you don't load your HIT sessions with excessively long time-in-zone durations.

If you're an aging athlete or someone with predominantly fast-twitch muscle fibers you may find it useful to extend the weekly microcycle from 7 to 8-10 days. This would allow more recovery between the two intervals and potentially allow greater adaptation. With this structure, you could aim for the 3-week cycle to last 4 weeks.

If you need to decrease the training volume in this plan, you may opt for omitting a couple of the low-intensive rides. Perhaps also consider dropping one of the five HIT workouts in the 3-week cycle (for a total of four HIT interval session over 3 weeks). This will allow you to maintain a fairly high total training stimulus, with considerably fewer training hours.

Best of luck with your polarised training!

- Martin

PS! If you want more training plans and resources to help you become a faster cyclist...

...it may just be that my [TRIBE membership could help you out](#)

References

1. Stöggl T and Sperlich B. Polarized training has greater impact on key endurance variables than threshold, high intensity, or high volume training. *Frontiers in Physiology*, 2014;5:33
2. Seiler S et al. Adaptations to aerobic interval training: Interactive effects of exercise intensity and total work duration. *Scandinavian Journal of Medicine and Science in Sports*, 2013;23:74-83
3. Rønnestad BR et al. Short intervals induce superior training adaptations compared with long intervals in cyclists – An effort-matched approach. *Scandinavian Journal of Medicine & Science in Sports*, 2015;25:143-151