

Periodization Training In Judo

Before we dig too deep in this topic, let's first start by establishing a very basic definition of what periodization is. Periodization is a means of alternating the training intensity to improve performance output. Put another way, it is a method of alternating high, medium, and low intensity workloads so that over time, the "rest" or low intensity workloads are at a comparable level to the medium or higher intensity workloads during previous parts of the training cycle.

The Basics of Periodization

One of the foundations of periodization is that the athlete involved is not an absolute novice and has a physical and mental understanding of where they stand competitively at this current time and where they need to be in order to achieve a predefined outcome in an upcoming competition. We will work under the premise that the Judoka we are training has at least 1 year of regular training time (at least 3 days per week and preferably more) or at least a Sankyū rank.

Now that we know we are not working with a novice athlete, we now have to understand that our athlete cannot be expected to give 100% effort every day of the week. In less than 14 days, you will totally destroy previous gains and kill their endurance. Periodization mixes High (> 75% overall intensity\load), Medium (40%-75% overall intensity), or Low (< 40% overall intensity).

At the start of a training cycle, which can be between 4 and 12 weeks (and can be longer or shorter as well), the focus is on building an endurance focused foundation. Without appropriate depth in this phase, the remaining phases become more unstable, over-training becomes a significant risk and improvements are reduced.

We will also discuss later, how weight training can be used to supplement the Judo specific training with regard to 1/day and 2/day workouts. Performing the wrong weight training regiment can hinder the Judo gains developed at each phase of training so the weight/resistance training regiment must be tailored to match it.

Phase 1

This first phase will have very short periods of higher intensity mixed in but they will be few in number and very short in duration. For Judoka, the focus will be on moving uchikomi with low resistance and sets of technique-based repetitions of 25 or more per set. With matches typically lasting 3-5 minutes, the objective is to get our athletes to be able to sustain about 50%-60% effort for 15-20 minutes non-stop. Remember that this is the athlete's workload capacity at the end of the initial phase and not at the beginning.

There is typically a transition period of about 2 weeks (sometimes as long as 4-6 weeks depending on the length of the cycles. If training cycles become too long, the training benefit is lost and over training can become a risk. During this transition phase, the number of medium intensity workouts

grows and the length of the lower intensity (endurance-focused) workouts increases at a much slower rate.

In the secondary phase of training, we want to move our Judoka from 20 minutes of 50% effort to about a 10-minute period of sustained activity. It is during the second phase where the endurance sessions will become shorter while the number of medium and higher intensity work periods increases. Our goal is to have a Judoka that is capable of performing at 80%-100% original (start of phase 1) workload by the end of the second phase of training.

Phase 2

The second phase of training will typically run between 6-14 weeks (with some being long and some shorter). At the end of the second phase of training there is typically about a 2 week transition period. The workload at the end of this second phase should be mostly the length of a typical match (3-5 min.) with some workload as short as 1 min. and some as long as 7-10 minutes.

The athlete at this point should have great stamina over the length of the match but not as much explosive power as he/she may want for an upcoming match. The transition period between the second and third phases of training give the athlete's body about 2 weeks to adapt to shorter and more intense work periods.

Phase 3

In the third period of training, the workloads become much more intense and can often run to 125%-150% of the beginning workload capacity and will often exceed the athlete's current maximum. Their duration will be much shorter however. This is the phase of training when the cardio base is joined with the explosive power needed.

At its most intense, work periods will last between 15-30 seconds and will be conducted near, at, or above maximum effort. Initially, they will be followed by 1-2 minutes of rest but as the third phase of training nears its end, the rest periods will be the same length as the work periods. This phase of training is also the shortest and will typically last 4-8 weeks with the goal competition being 1-2 weeks after the third phase ends.

Monitor your athletes closely during this phase as the risk of muscle pulls and other power-related injuries increases. Ideally, you also want to have randori and other competition-style free exercise drills done with a fresh athlete. During the third phase, you will not want to do multiple explosive oriented workouts in the same day but they can be back to back if separated by a good night's rest. One at the end of the day and another during the morning workout session are possible but monitor your athlete very closely.

The tapering phase is a transition phase from phase 3 to the final competition and it should be a steady decrease in overall workload and duration with the workloads of the last 2-3 days before competition not exceeding 40%-50% effort and not running for more than the length of the match. The overall length of the session should be shortened as well. The purpose is to give the athlete's body a

chance to over-recover by fixing any remaining micro-tears in the muscles and building full glycogen stores in the muscles.

If done properly the athlete's body will become antsy and almost twitching to compete and perform by the time of the competition. This is what we want. This shows us that the mental aspect has been developed along with the physical and both are focused on performing at their highest levels.

Periodization Planning & Factoring in Perceived Exertion

Without going too much into what should and should not be done to create National and International caliber competitors, as each coach has their own ideas on this topic, let's talk about some rudimentary examples of workouts athletes and coaches can consider during each phase of training. We will also look at schedule building and monitoring an athlete's perceived exertion (PE) level.

PE or Perceived Exertion is how strenuous the athlete feels the effort was. The scale for this can be 1-5 or 1-10 and you can increment by half points or full points. A good example of this would be to run a mile in 8 minutes. Let's presume that this is something that you can do readily but with some effort. On some days, this may feel like a difficult task maybe because of work or some other related stress while on other days, this may be very easy. This perceived exertion helps to qualify the workout experienced by the athlete.

With PE taken into consideration there will be days where a workout that you consider to be a moderate workout may be a very difficult workout for the athlete when stress is high and rest is low. Situations like this would need to be monitored so that when your coaching plan is to offer a moderate workout, your athlete received a moderate workout based on their PE.

Now that we have an idea of perceived exertion, let's take a look at load levels for workouts. By 'load level', we are discussing the difficulty and amount of work in a given workout. We also will presume an understanding in this discussion that the athlete cannot tolerate consecutive workouts at or near peak effort. After a short period of just a few days, the athlete in question will show an elevated resting heart rate, an inability to recover in a timely manner and a generally lower power and endurance level. For this reason, the load level cannot be maintained for long periods at a very high level.

The load level will change based on the phase of training that an athlete is in. We begin with a review of two basic Phase 1 workloads for an athlete. Take a look at the exertion levels listed and note that at their peak, an athlete will work at about 85% of maximum effort and about 60% effort on recovery days. Another aspect of these two is that there are cycles of varying intensity during the week with hard days and easy days.

Another key to notice is that the hardest day of the week is preceded by a lighter workload and then followed by a rest day or a very light day before training continues 2 days later. This is essential to

allow time for the non-elite athlete to adapt to the load and recover from the exertion. This will change a little for elite athletes but not much.

Since Phase 1 is focused on base building, the hard days will mean that there is increased workload duration expected from the athlete or there is an increased load over the longest 'normal' duration for that cycle. Initially you train your athlete at about 40% and move toward 60% maximal effort by the end of the cycle. It can also include some intervals as you don't want 100% of the base building workouts to be steady-state in nature. You will also want to incorporate some full maximal efforts so that you don't train stale muscles but keep some vitality in them by changing things up a bit.

Weekly Cycle Phase 1:

Duration	Sun	Mon	Tue	Wed	Thu	Fri	Sat
100%-300%	< 20% or REST	70%	75%	80%	60%	60%	85%
100%-300%	< 20% or REST	70%	80%	75%	80%	60%	85%

During Phase 2, the stress level of a workout does not mean making it longer but making the intervals within the workout more strenuous. This also means that on lighter days, the load and duration should decrease. Take a look at the two Phase 2 cycles below. The first has 2 peaks while the second has 3. These are things to consider when building a periodization plan for an athlete. Also take into account the fact that you don't want every week to have the same rhythm. Changing the routine forces the athlete to adapt and this often will return positive improvement when done regularly.

Weekly Cycle Phase 2:

Duration	Sun	Mon	Tue	Wed	Thu	Fri	Sat
50%-150%	< 20% or REST	60%	80%	90%	70%	85%	100%
50%-150%	< 20% or REST	70%	85%	70%	85%	65%	100+%

As we near our end of season goal competition, we enter Phase 3 where we will build explosive power and speed into our already well developed base. In the 2 example weeks below, notice the first week has 2 high peaks during the week and it also have lower troughs between them. This allows for more rest as we are pushing the athlete to maximum effort more often.

Understand that this does not mean that the 70-80% days have all efforts in that range, it means that the training session as a unit is of that average intensity. Given this, there are times when 100% effort is expected on a 70-80% day but there will be a small number of intervals, shorter workload duration, and longer rest intervals.

Another consideration in Phase 3 is the time of day when the final competition will take place. If it is Saturday mornings, then plan for the hardest workouts to be during this time. This helps the body's rhythms to sync up. Elite athletes will benefit from this especially if their final competition is in another hemisphere and the sleep cycles will be affected. For local competitions, this is not such a great consideration.

Weekly Cycle Phase 3:

Duration	Sun	Mon	Tue	Wed	Thu	Fri	Sat
10%-40%	< 20% or REST	50%	75%	95%	75%	80%	100+%
10%-40%	< 20% or REST	60%	80%	80%	70%	85%	100+%

When you have an athlete that is ready to move to multiple training sessions per day, consider that the percentage guides above are for the entire day's training. This is also based on perceived exertion, not how much the athlete was able to execute in the previous weeks training plan. If the athlete is having an off week, this is not the time to try and work the laziness out of them. Back off and let their body recover. You will see benefits from this far more often than you will see a lack of performance.

Don't forget that when it is time to taper (the period of 7-14 days before a milestone competition), make sure that there are few increases (peaks) in work load and that each increase (peak) is lower than the previous. Here are a couple of examples of tapering. 1 week prior should be a rehearsal of what the athlete is going to do and at a low effort not to exceed 75-80%. That is the last workout with any significant load and all others that follow are decreasing in load/intensity. This leaves an athlete well rested and mentally, as well as physically, eager to compete.

Taper #1

Duration	Sun	Mon	Tue	Wed	Thu	Fri	Sat
10%-40%	< 20% or REST	60%	75%	50%	65%	50%	80%
10%-40%	< 20% or REST	50%	30%	40%	<20%	<20%	Comp.

Summary

We covered a very rudimentary schedule for training a judoka with a 3 phase periodization plan. The table below gives an example of what we talked about in table form. Included below are a few of the many references regarding periodization on the Internet. It will take the coach time to become accustomed to training athletes this way and being aware of when to modify the plan based on the athlete's current stress, conditioning, and other factors.

With practice as a coach, this will make more sense and become easier much like your Judo training when you were moving up in the ranks.

Phase	Length (wks)	Frequency	Duration	Intensity	Volume
Prep	4-8	High	Low-Med	Very little	Low
Base	12-24	High	Med-High	Moderate	Med-High
Building	4-8	Med-High	High	Heavy	Moderate
Peaking\Tapering	3-5	Moderate	Moderate	Heavy	Low

References

<http://www.exrx.net/WeightTraining/Periodization.html>

<http://www.trifuel.com/training/triathlon-training/what-does-periodization-mean-and-how-does-it-work>

Play Hard! Have Fun! Strive to Improve!!

Vic Reavis, Yodan
Head Coach, Belmont Kodokan Judo Club
mailto: Sensei_Vic@BelmontJudo.com