

Athletic Development

This document is prepared to help the jujitsu coach prepare and develop competitors for national and international competitions.

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# **Athletic Training for Jujitsu**

As a coach and competitor you need to be aware of what is required in terms of fitness and sports skill to perform successfully in competition at the desired level – local, state, national or international. These standards become your goal. You then need to train towards those goals.

In order to train an athlete there are a number of things that you must be aware.

- You need to assess the athlete for strength, endurance, speed and agility
- You must design a training program that will enable the athlete to make gains and retain those gains.
- The training program must take into consideration exercises and training methods that develop the muscles specific to the sport.
- The training must be modulated for that part of the season in which the athlete finds himself.
- The training program must work in conjunction with the athletes coach for necessary skill improvement.

### Seasonal Consideration

There is currently no real season for JJIF Jujitsu. However, a season can be predicated depending on how you view things. If the goal is to be a national champion, training and competition should be selected so that the athlete peaks at the national championships. If the goal is to be an international champion, then peaking should occur at the international event – Pan American or World Championships. Since the Pan Am Championships is normally in the summer and the World Championships in the fall, there is room to treat the year as having two seasons if the athlete will perform at both competitions. The Nationals usually is in the spring and can be used as an event leading up to the Pan American Championships. It may be reasonable to try to encourage events be staged so that there is a lead-in from local, to national, to international events. A further issue exists in that an athlete needs to compete regularly in events to hone his skills so either more events must be created or the athlete needs to seek out other than JJIF style competitions to develop the necessary skills to be a champion.

## The Seasonal Approach

Off-season condition should emphasize skill and basic fitness development. Build strength emphasizing high volume with moderate intensity lifts. Include some plyometric exercises. Build endurance through endurance activities.

The Pre-season type training should start 6-8 weeks before competition. Base fitness should already be in place from off-season activities. You want to increase peak fitness that will carry over and build during the competitive season. Use low volume, high intensity resistance exercises. Include plyometric exercises, speed exercises and endurance training. Emphasize quality over quantity. Develop and maintain endurance and speed through intense interval training and line drills. Fewer repetitions at high speed is more important that more repetitions at submaximal effort. Avoid the temptation to do excessive volume.

During the in-season, the conditioning program should be to maintain the fitness developed to date. Athletes should use weight training, plyometric exercises and speed exercises to maintain and keep the base fitness. Sports skill is more important during this time period.

Peak season represents certain major events where the competitor needs or desires to participate to the fullest.

Post season is a short time period after the end of the season for the body to recover before starting the off-season regimen.

### Seasonal Training for Jujitsu

When it comes to martial arts training, there is no off-season. You must be prepared to defend yourself at any time. Building up our strength, endurance, and techniques improves our capacity to defend ourselves. While can train in the martial arts, you must apply yourself. Thus we can see the importance of being prepared.

Jujitsu is considered a martial discipline. In recent years it has developed a sport with rules and regulations to provide for a safe but strenuous competitive atmosphere. It should be natural for the martial artist to turn to strong scientific sports information that can improve competitive abilities and enhance the body's delivery system. Armies must maintain an adequate degree of readiness to defend at a moment's notice. Even in times of peace an army and a martial artist must maintain a degree of preparedness. When an army knows it will be going to war, intense preparation and build-up occur. The jujitsu competitor must also prepare the body's delivery system and build up strength for the target date of the competition.

Jujitsu competition is fun. Many people young and old compete in jujitsu competition for its recreational value. They may not be interested in becoming an elite national or international competitor. Others thrive on the desire to be a state, regional, or national or even international champion. But jujitsu-ka must maintain a degree of readiness should they be called upon to defend themselves or others. A proper plan of training can assist in maintaining a degree of readiness and help the competitor excel in meeting the demands of jujitsu competition.

Below is a seasonal training plan for the Jujitsu competitor based on the USJJF competition calendar. This training plan can easily be adapted to other sports structures maintaining a qualifying program. Dojos who participate in competition on a regular basis can use this plan to provide a progressive method for anyone who wishes to increase fitness and ability to defend. Finally, while this plan is for training competitors, it will still allow work and development towards rank.

### **Seasonal Training Plan**

In designing this seasonal training plan, the year can be divided into an off-season pre-season, in-season, peak season and post season. Post season is the 10-20 days immediately after a target event. This is a time to relax from the rigors of intensive training, to rest, heal, and reflect. Light workouts and review of skills not generally a part of competitive training is recommended. Off-season training begins after the post season. Off-season continues until about 6-8 weeks before the State/RJJO qualifier which is when pre-season training begins in earnest. The state/RSO qualifier marks the beginning of the in-season. From the RSO/State Qualifier, the competitor advances to the national championships normally in the spring. The season for competition peaks at the national championships. Placing in this competition is primary to be nominated onto the USJJF national team pool. Inn-season and peak season training can carry forward to the Pan American Championships, usually summer, and the World Championships, usually fall. Depending on the actual dates and events attended and time interval in between, the season training would vary with off-season, pre-season, inseason and peak-season training perhaps even cycling every 6 months instead of annually.

Off-season • During the off-season, workouts should build aerobic endurance and increase strength. Other sports activities are highly recommended to maintain aerobic fitness – basketball, soccer, biking, swimming, jogging, and jump roping come readily to mind. Handball and racquetball are also good sports for aerobic fitness as well as for quick timing, hand-eye coordination, and accuracy. Many young competitors will often be doing various sports at school and following a seasonal training progression for those sports. From the jujitsu standpoint, this is fine, but care should be taken towards maintaining flexibility as certain sports activities, without proper stretching can cause loss of flexibility and hinder movement. These other sports and maintenance activities can generally continue until pre-season training starts.

Pre-season • Pre-season activity should begin around 6-8 weeks before the state/RJJO qualifier. Drills should include light shiai where competition skills are practiced against random attacks. This is a good time to address weaknesses in technique and tactics for competition. A good way to practice competition skills is to pair off lower ranks with higher

ranks. The lower ranks are responsible to attack and the higher ranks are limited to only being permitted to use the specific skills studied in practice. Too often fighters are allowed to fight randomly without controls on what techniques to practice and tactics to be reinforced. By controlling the skills to be used, the more advanced fighter is forced to concentrate on skill work. Even though this is pre-season it is a good idea to compete in a few tournaments to get back into the swing of things and to get focused on the demands of competition. When competing, it is important to enter tournaments that use the JJIF sports rules and standards. The competitor wants to be in condition for the standard of technique necessary for this rule system. On the other-hand, competing in other sports systems such as grappling or other jujitsu organizations might need to take place due to the difficulty of finding competition under the JJIF rules.

In season• At least 30 but not more than 60 days before the national championships, the in-season portion of the training program should be in full force. Besides increasing the intensity of the training schedule, the competitor should increase competitive activity. Avoiding injury is important so consider intense fighting about every other week allowing adequate rest and recovery between competitive activities.

Peak Season • Intense peak season training begins immediately after the leagues and leads to the nationals tapering off 2 weeks before the event. This permits healing and recuperation so that top physical shape without injury can be obtained.

Post season • Post season is a short time period immediately after a major competition where a competitor may need to rest and recuperate from injury or overtraining.

Other Events • For some competitors, a short respite after the nationals will be followed by the need to train and peak for certain international events. After the brief respite following the national championships the competitor will need to determine the number of weeks until the target event. For example, there is usually 6-10 weeks before Pan American and 12-16 weeks before the World championships. If the time span is very short, return at once to the in-season training program. Otherwise, 3-4 weeks should be devoted to pre-season activity in preparation for these events. In-season to peak season training should begin 6-8 weeks before the target event. Resting and healing about two weeks before the event and after such an event allows for recuperation both physically and mentally.

### **Designing a Seasonal Training Program**

A seasonal training program will need requirements for energy and muscular fitness training, and skill training as required for the competition season. To design a seasonal training plan, make a schedule of the desired competitions throughout the year on a calendar. This schedule should include all events that a competitor wants to attend. From these events choose those events that are most important and where the competitor will need to be in peak condition. Peaking for every event should not be contemplated as this will be counter-productive. Even professional athletes chose specific events over other events.

After completing the Calendar and determined target events, prepare a training plan. Map out for the year the off-season, pre-season, in-season and peak-season training times. A specific training program can now be set up.

The Seasonal Plan shown at the end of this document generally depicts the type of muscular and energy fitness and skill training that should be accomplished during each season. For each season goals are determined and a general outline of muscular and energy fitness training essential in meeting these goals is given. For example, during the in-season the goal should be to improve power by concentrating on speed and to improve anaerobic recovery time. This is accomplished by high intensity speed and power training 1-3 times per week with 2-3 energy training sessions at 90-95% effort. In order to complete this training plan an understanding of muscular strength and endurance conditioning will be necessary for determining the exercises incorporated into power and speed training.

Using both the Training and Competition Calendar and the Seasonal Instruction Plan, design a Seasonal Training Chart. This chart is a detailed day to day plan designed to peak at the appropriate target events. The final step of course is to put this Seasonal Training Plan into operation and to closely follow this plan throughout the year.

#### A Word for Coaches

The coach's procedure for developing a seasonal training plan for athletes is slightly different. The coach will need the Training and Competition Calendar and the Instruction Plan. However, before the coach can complete the calendar, the coach will need to find out what the expectations of the athletes are for the competition season, what their special recreational interests may be, and what other sports a competitors may be participating in as well as the competition and training season for these sports. From this data the coach completes a Training and Competition Calendar. If the coach has competitors interested in several events throughout the year, the coach may need to include two of more seasonal cycles for individual or different groups of competitors if they desire to peak at these different times of the year. The Training and Competition Calendar should give the coach a summary of what the year will look like for the coach and the coach's athletes.

Referring to this composite calendar, each competitor's individual calendar, and the coach's instructional plan, the coach can then plot out a seasonal training program for the competitors. In doing so, the coach should look at what other sports the athletes may be doing at the same time. Certain training in the other sports may dovetail for the needs of the jujitsu training. Alternatively, by knowing what other sports activities and seasonal timing the athletes may find themselves in, a coach may be able to diagnose the reasons for certain strengths and weakness of a competitor and consider this in designing the training plan. Depending on circumstances, the coach may group athletes together as much as possible based on the events that the particular athletes will be targeting. However, because of the individual nature of jujitsu, the coach should tailor as necessary the seasonal training plan for each competitor under the coach's control.

# Diet and Weight

Diet consumed during exercise should be a sensible, nutritious one. The diet should supply enough calories to meet energy needs but still allow athletes to control their own weight. If an athlete wants to lose weight, the loss should be done gradually – no more then 2-3 pounds per week. Rapid weight loss can usually cause loss of muscle mass (including heart muscle) and water. Loss of water will affect performance and water loss can take 2 to 3 days to replenish. The best fluid replacement is a cold beverage that contains some energy and electrolytes. Use prolonged endurance training and diet control to gradually reach competitive weight during the off-season. The athlete should be at weight before any pre or in season training is begun. Sweating off water to make weight is unhealthy, reduces performance and should not be allowed by an ethical coach.

Hard training will require more carbohydrates and fewer saturated fats and trans-fatty acids. Eat a diet high in fruits, vegetables, fish and whole grains. Monounsaturated fats (olive oil, nuts, and avocados) are also beneficial. The USDA website <a href="mypyramid.gov">mypyramid.gov</a> contains updated nutritional information for a high-performance diet. Beware of dietary food supplements and drugs. They may be unethical, illegal or simply counter-productive regardless of their claims. Diet, properly balanced, has been shone to provide the energy and nutrients to work at maximum efficiency.

### **Anabolic Steroids**

Anabolic steroids work by increasing the size of muscles cells and increasing the speed of calcium release. With bigger muscles and increased speed of calcium release, the muscles can contract faster and more powerfully. Steroids can also increase testosterone, slow down muscle breakdown, and trigger growth hormones from the brain and muscle growth factors from the liver. Increased training intensity and aggressiveness can also come about from steroid use.

However, if you use Steroids, you will become ineligible for many sports. Further, use of anabolic steroids may cause serious or fatal health problems such as heart disease, stroke, cancer, growth deformities, infertility, personality changes, severe acne and baldness. Risks from steroid use includes liver toxicity and tumors, decreased good cholesterol, cardiac arrhythmia in addition to reducing sperm count, depressing the immune function, increasing blood pressure and possibly an increase possibility of aids and other diseases if not administered correctly. For youth steroid use could also cause premature closing of bone growth centers and cancer risks as well as severe personality changes and psychiatric disturbances. This is not the way to go about becoming a better athlete or getting in better shape.

### Fitness Testing

Why is it important? You need to know what you have, where it is going, and what you need to do to get it where you want it to go. If your athlete wants to compete at the elite level (not just show up) the athlete must have the required fitness. Fitness can equalize otherwise imbalanced athletes. Fitness will also reduce the incidence of injury.

### Assess athlete fitness.

Since training is highly specific to the sport and does not transfer between sports what should we measure? What fitness tests should be used to assess an athlete for jujitsu fighting competition? Before we consider what to test we need to know what the specific strength, endurance, speed and agility requirements of the sport of jujitsu fighting are.

Part I: Punches, Strikes and Kicks
Double Through Takedown Looks and Changewhations
Part II: Throws, Takedowns, Locks and Strangulations
Part III: Floor Techniques, Locks and Strangulations

### Strength – the ability to exert force. Power is the ability to exert force rapidly.

**Examples** 

- Tests 1RM Maximum. Bench Press, Dead are lift better at predicting power performance. 1RM maximum amount of weight and athlete can lift once. Types of 1RM are bench press, leg press, power clean, squat, curl, dead lift, snatch, and military press. Most common Bench Press and power clean. (Page 156 has norms for 1RM.)
- Strength endurance tests
- Push-ups, pull-ups measure by maximum that an athlete can do.
- What about 40 yard dash and vertical jump
- Standing long jump, single leg squats, three bunny hop jumps

Increases in strength do not predict changes in performance. Changes in explosive strength can predict short term changes in performance. Which tests best indicate the success of a jujitsu competitor? Should the test consider different parts of the match?

# Speed and Endurance - Oxygen consumption and replacement

**Examples** 

300-400 meter sprints provide a good measure of base or core fitness. Not necessary for power sports. VO2Max is the ability to deliver and use oxygen including capacity for exercise at high intensities.

- 1mile Rockport Walking test
- Cooper 12 minute run
- 6 mile bicycle test
- 12 minute swim test

### Agility Testing – the ability to change directions quickly.

- 3 cone test
- Shuttle Run
- Select plyometric exercises

### **Body Composition**

Body composition testing will help indicate correct balance between body fat and not fat. It can indicate life style changes (diet and exercise) necessary for an athlete to be healthy and successful and can help determine correct weight for competition. Inappropriate crashing to make weight can greatly affect performance. Most quick weight loss is in hydration. Loss of fluids to make weight will affect performance and cannot be replenished quickly enough for the following competition and too much water loss can affect health and be dangerous. The BMI, body mass index, relates body mass to height as one measure of body composition – fat weight and fat-free weight. You can also do body fat measuring to determine the percentage of body fat and compare it to norms. Simple formula to control weight – consume more calories than you eat.

### **Summary**

Pick 6-8 tests that are appropriate to Jujitsu. Administer these tests consistently and frequently. Test for a base score and track improvement as means to evaluate improvements since norms are not present for Jujitsu in these tests. Norms are available for certain tests and these can be used as a guide. Finally, a body composition test can be used to assess body fat and determine what level is required to be successful.

# **Tests for Jujitsu Fitness**

7	est	Standard
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

# Seasonal Training Plan

### **Off-Season**

**Strength and Resistance Training** – 12-16 exercises alternating days, 6-8 per day. Consider positive and negative balance in the choice of exercises. Use high volume (sets) with moderate intensity (reps). Weight adjusted to go to failure in last set of each exercise.

Exercise	Sets	Reps	Days
1			
2			
3			
4			
5			
6			
7			
8.			
9.			
10			
11			
12			
13.			
14			
15			
16			

1.		
2.		
3.		
4.		

Exercise	_ Sets	_Reps	_ Days
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
Skill Training			
Skiii Italiiliig			

## **Pre-Season**

**Strength and Resistance Training** – 12-16 exercises alternating days, 6-8 per day. Consider positive and negative balance in the choice of exercises. Use high volume (sets) with moderate intensity (reps).

Exercise	Sets	Reps	Days
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

5.			
6.			
_			
7.			
8.			
0.			

Exercise	Sets	Reps	Days	
43.				
44.				
45.				
46.				
47.				
48.				
49.				
50.				
51.				
52.				
Skill Training				

## **In-season**

**Strength and Resistance Training** – 12-16 exercises alternating days, 6-8 per day. Consider positive and negative balance in the choice of exercises. Use high volume (sets) with moderate intensity (reps).

Exercise	Sets	 Days
53		 
54		
55		 
56		 
57		 
58		 
59		 
60		
61		 
62		
63		
64		
65		
66.		
67		
68.		

9.	
10.	
11.	
12.	

Exercise	Sets	Reps	Days
69.			
70.			
71.			
72.			
73.			
74.			
75.			
76.			
77.			
78.			
Skill Training			

# Season

**Strength and Resistance Training** – 12-16 exercises alternating days, 6-8 per day. Consider positive and negative balance in the choice of exercises. Use high volume (sets) with moderate intensity (reps).

Exercise	Sets	_Reps	_ Days
79			
80			
81			
82	-		
83			
84			
85			
86			
87			
88			
89			
90			
91			
92.			
93.			
94			

13.		
14.		
15.		
16.		

Exercise	Sets	Reps	_ Days
95.			
96.			
97.			
98.			
99.			
100.			
101.			
102.			
103.			
104.			
Skill Training			

## **Peak Season**

**Strength and Resistance Training** – 12-16 exercises alternating days, 6-8 per day. Consider positive and negative balance in the choice of exercises. Use high volume (sets) with moderate intensity (reps).

	Sets	Days
105 106		
107		
108		
109		
110		
111		
112		
113		
114		
115		
116		
117		
118		
119		
120		

17.	
18.	
19.	
20.	

Exercise	Sets	Reps	Days	
121.				
122.				
123.				
124.				
125.				
126.				
127.				
128.				
129.				
130.				
Skill Training				
128. 129. 130.				

	Seasonal	Plan
	Muscular Fitness Training	Energy Fitness Training
Off-season	Goals: Strengthen the body and improve the activity to avoid weight gains keeping body farther gains.	
Learn and practice new skills and techniques, refine old skills and techniques.	Improve strength especially in specific muscle groups needed for competition using weight and variable resistance training 3-4xs per week. Use 3-5 sets of 6-10 reps at over 66% of maximum to increase strength. Work to eliminate performance deficiencies.	Improve aerobic ability with low intensity continuous exercise 2-3xs per week building up a solid aerobic foundation. Jogging and easy interval training. Other sports activities and recreational activities should be considered.
Pre-Season	Goals: Improve muscular strength and power anaerobic threshold to sustain a higher intentraining exercises.	r and begin muscle endurance training. Raise the sity for a longer duration using faster paced
Refine practice and introduce strategy, tactics, and techniques.	Increase intensity for endurance and power using weight and variable resistance training 3-4xs per week using 5 sets of 3-8 reps. Circuit training is excellent for this.	High intensity energy fitness training using short intense interval training of 2-5 minutes at 85-90% capacity 3x per week pushing anaerobic threshold. Introduce sports specific competition drills to improve anaerobic ability. Use plyometric exercises and speed drills.
In-season	Goals: Improve power by concentrating on sp time.	beed. Work on improving anaerobic recovery
Jujitsu specific skills, strategies, and competitive skills.	Maintain strength gains by suing a strength maintenance program 1-2x per week. Use 3-5 sets of 10-12 reps at 30-60% maximum resistance. Frequency of training depends on competitive schedule.	High intensity jujitsu specific exercise for anaerobic fitness 2-3x per week reducing the anaerobic recovery time. Intervals at 30-90 seconds of 90-95% capacity. Competition can replace fitness sessions.
Peak Season	Goal: High intensity competition practices an competition to avoid fatigue and heal the body	d speed training tapering off several days before ly.
Regular competition training and competition especially for fitness.	Use a strength maintenance program 1-2 times per week. High intensity, low resistance jujitsu specific power and speed training 1-2xs per week. Use 3-5 sets of 12-15 reps at 30 to 60% maximum resistance as fast as possible.	Use competitive jujitsu skill drills for high intensity jujitsu power and speed at competitive intensity. Use repetition and vary pace and body parts. Competition can replace fitness training. Back off several days before target competition to permit full recovery. Use an easy aerobic maintenance program for off days.
Post Season	Goal: With the target event behind, let the bo competition.	dy rest and recover from the vigor of
Rest and recuperation.	Easy maintenance with rest and recuperation.	Easy maintenance with rest and recuperation.