

4th Dan Grading Assignment

Topic: The Complete Mental and Physical Preparation for a Taekwon-Do Grading or Competition

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The Complete Mental and Physical Preparation for a Taekwon-Do Grading or Competition

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World Class Taekwon-Do

Introduction

The Korean Martial Art Taekwon-Do is the most participated Martial Art in the world and is practiced by all ages and genders. It is practiced to increase overall fitness, build self-confidence, improve flexibility, increase strength, develop co-ordination, enhance mental discipline, for self-defence, recreation and to compete in competitions.

Not matter what the reason, Taekwon-Do requires the mental skills of goal setting, concentration, focus, discipline and purpose, blended with the physical skills of strength, fitness, flexibility, speed, power, agility and precision.

This paper provides the Taekwon-Do participant the tools to mentally and physically prepare for a grading, competition or to achieve a desired level of Taekwon-Do performance in the most scientific and easiest way possible. It does not however cover the technical training of the skills of Taekwon-Do. The following topics are addressed.

1. Goal Setting - The Power of Goal Setting for Taekwon-Do
2. Periodisation - Peak Performance for Taekwon-Do
3. Strength - Quality Strength Training for Taekwon-Do
4. Fitness - Quality Fitness Training for Taekwon-Do
5. Flexibility - Quality Flexibility for Taekwon-Do
6. Nutrition - Making Weight for Taekwon-Do



1. Powerful Goal Setting for Taekwon-Do

Goal setting is a powerful tool that is commonly used by high achievers, sports and business people. Research and anecdotal evidence shows that those who set specific goals achieve far more than those who do not.

“If you aim at nothing, you are sure hit it”

Successful goal setting can be achieved via visualisation, verbal affirmation, creating vision boards or formally writing down your goals. Whether your goal is to grade to your next belt, to black belt or to win a competition, the use of goal setting techniques will significantly increase your chances of Taekwon-Do success.

Here are the 12 “P” Rules of Goal Setting that will make your goals more powerful and actions more productive.

PERSONAL

Make sure the goals you set are “your” personal goals and not someone else’s goals for you. The goal has to be meaningful to you, not necessarily others. Many people’s goals are influenced by other people such as their parents, friends, peer groups and society’s expectations. If it is not your goal it will be very hard to stay motivated to achieve it.

POSITIVE

Always recite your goals in a positive tense rather than a negative one. For example, I want to succeed rather than I don’t want to fail; I want to win rather than I don’t want to lose. Your subconscious mind does not recognise the word “don’t”, so it will only hear the negative that comes after it. If you went into a competition and focused on not getting hit rather than hitting, then you would probably get hit and lose the bout. Always recite your goals in a positive tense.

PRESSURE

Set big enough goals that place a positive pressure on you to become better at what you do. The bigger the goal the bigger the actions you have to do and the better the “person” you have to become to achieve the goal.

“Set goals that will make something of you”

Your goal list should not look like your “To Do” list. Your goals should challenge you in a way that forces you to become better skilled, educated and experienced.

“Pressure turns coal into diamonds”

PRESENT

State your goals in the present tense rather than the “wanting” tense. Rather than stating that you “want to be” a winner, say you “are” a winner. Rather than saying you “want to be” a black belt, say you “are” a black belt.

“Be before you are and you will become”

This sends a strong message and expectation to your subconscious mind that drives the conscious mind to act to make it happen. Think of what you want and start thinking and talking as if you have already achieved it. This changes your physiology and psychology to match to that of the person who has achieved it.

“Thinking like a champion will make you a champion”

PEN

Penning your goals to paper by writing them down helps clarify them in your mind and re-enforces them into your subconscious mind. Write them down where you will see them regularly as a reminder such as in your diary, on a white board, a journal, a mirror or on your computer desktop. It is recommended that you write them down at the start of every day as this will set your focus onto your goals at the start of each day so you do not get distracted throughout the day.

“Obstacles appear when you take your mind off your goals”

PICTURE

Surround yourself with visual reminders of your goals, what you want and who you are becoming. This provides your subconscious mind a very clear visual image of what you are aiming for and creates a stronger emotional connection and drive to your goals.

“If I say it I forget it, if I see it I remember it, if I do it I understand it”

This can be achieved by designing Vision Boards (See sample template), framing photos and drawings of your goals and what you want placed in regular view such as your bedroom wall, bathroom mirror, computer desktop and office notice boards.

PLANNING

To make your goals come true, it is vital to have an action plan to ensure that it becomes a reality. Write down your daily, weekly and monthly “to do’s” in a planning journal/diary.

“If you fail to plan, you plan to fail”

Take into consideration the time you have to achieve the goal and work backwards from there to decide what you need to accomplish and do every month, week and day to make it happen.

PRACTICE

You need to take action on your plan to turn your goals into real results. Practice what you are preaching by applying self-discipline and doing what you said you were going to do. Discipline is doing what you should do, when you should do it even when you do not feel like doing it.

“SUCCESS = Doing what you said you were going to do”

Action will lead to a result which creates a positive emotion that feeds the next action. The more you do the more you want to do. This all starts with your first “do”, which starts the “ball rolling” towards your goals until it becomes hard to stop.

“Motion creates emotion which creates more momentum”

PERFORMANCE

It is vital that your practice and training leads to performance not just activity. To ensure that your performance improves with training in line with your goals, make sure you set performance goals and targets for every training session.

“Practice does not make perfect....Perfect practice makes perfect”

A big goal is achieved with the continual improvement and achievement of a lot of small training goals. Continually set and monitor your training performance to make sure you are on track to achieve your big goals.

“A big goal is made up of a lot of little goals”

PAY DAY

Set a time line and a specific date to achieve each goal. This will hold you accountable to the goal and create a sense of urgency to take action on it. If an accountability date is not set, then there is no foreseeable consequence of inaction.

“A goal without a time line is not a goal, it is just a dream”

PRIZE

Once you have applied all of the other P's and have become that person who “deserves” to achieve your goals, then it is time to collect your prize, the prize of success and satisfaction.

“I hated every minute of training, but I said, “Don’t quit”. Suffer now and live the rest of your life as a champion.” Muhammad Ali

PERSISTANCE

If you at first do not succeed, then try try again. Everything that is worth achieving is rarely achieved on the first attempt. If it was easy, everyone would achieve it. Never give up on your dreams and goals.

It is not about achieving the goal that is most valuable, it is who you have to become to deserve achieving the goal that is most valuable.

If you train enough and become good enough and compete enough you will win enough.

“A BIG shot is just a LITTLE shot who just keeps shooting”

Sample template that you can use to set up a Vision Board with your goals on it.

Goal Photo	Goal	Completion Date
	<p>I have achieved my Black Belt with an “A” grade pass</p>	<p>1st March 2016</p>
	<p>I am in great physical shape at a body weight of 65kg at 15% Body fat and with a resting pulse of 50bpm and fit enough to compete at a national level</p>	<p>1st January 2016</p>
	<p>I have competed and placed at the national championships in sparring and patterns</p>	<p>15th July 2016</p>
	<p>I am a member of the National Taekwon-do Team for the 2017 World Championships in sparring and patterns</p>	<p>1st March 2017</p>

It is important to design your Vision Board the way that means the most to you. You can use a combination of generic photos, your photos or photos of people who you admire and respect, depending on what the goal is. It is your board, do it your way and have fun developing it.

***“Everything achieved in the world is created 3 times... first in the mind,
second in a plan and third in reality”***



2. Peak Performance for Taekwon-Do

Taekwon-Do, like many martial arts is a goal orientated art, meaning that most Taekwon-Do practitioners are always training towards achieving a specific goal such as passing their next grading or winning a competition. It would be ideal for them to be in their peak physical and mental condition on the competition/grading date so they can display their best performance to pass the grading or win the competition.

Being in peak condition does not happen by luck or chance. Many students train for a competition or grading with no overall plan or structure which rarely leads to this outcome and can lead to overtraining and/or injury. It requires careful planning and timing of your training program to ensure you are in peak condition on a particular competition or grading date. This planning of your training program to reach peak performance on a specific date is called “Periodisation”.



Periodisation, is the manipulation of the training variables over a period of time, such as intensity (how hard you train) and volume (how long your train), to reach peak performance on a specific date while avoiding over training and injury.

It involves dividing up of the preparation training period into different sequential training cycles that focus on varying components of conditioning and skill.

For example, if the available preparation time for a black belt grading or a major competition was six months, then you may split the 6 month preparation training period, called a Macro-Cycle, into three separate 2 monthly Meso-Cycles that each focus on different components of conditioning and skill. Each Meso-Cycle would be further divided up into 1-2 weekly Micro-Cycles that consist of your daily training schedule that targets the specific conditioning and skill components of the Meso-Cycle.

Each Cycle addresses all of the important physical training requirements in a balanced approach that will lead to peak performance. These include skill development, strength and power/speed, aerobic and anaerobic fitness, flexibility, rehabilitation and injury prevention, and specific conditioning for the competition or grading.



Below illustrates how a 6 month Periodised Programme may be structured in preparation for a competition or grading. The Micro-Cycle training details have been not been included due to assignment length restrictions.

A 6 Month Periodised Model for Competition or Grading

<p>Goal: Black Belt Grading or World Taekwon-Do Championships Preparation Time: 6 months Macro-Cycle: 1 X 6months Meso-Cycles:3 X 2 months Micro-Cycles: 8 X 1 weeks Rest Cycles: 1 week</p>		
<p>Meso-Cycle 1</p> <p>8 weeks</p>	<p>Focus:</p> <ol style="list-style-type: none"> 1. Foundation work 2. Base Conditioning 3. Injury Rehabilitation 	<p>Components:</p> <ol style="list-style-type: none"> 1. Skill: Work on strengthening basic skills and developing new skills and techniques 2. Strength: Building a balanced foundation of strength 3. Fitness: Building a base of general cardiovascular fitness 4. Flexibility: Enhancing overall flexibility in a controlled way with extra focus on areas of tightness and injury 5. Rehabilitation: Rehabilitate previous injuries or preventing potential injuries 6. Intensity/Volume: Longer sessions of lower intensity progressing up to medium intensity
<p>Rest Cycle 1</p> <p>1 week</p>	<p>Active physical and mental recovery performing cross training activities that relieve specific stresses on soft tissues (muscles/tendons/ligaments) and joints</p>	
<p>Meso-Cycle 2</p> <p>8 weeks</p>	<p>Focus:</p> <ol style="list-style-type: none"> 1. Condition Skills 2. Performance Conditioning 	<p>Components:</p> <ol style="list-style-type: none"> 1. Skill: Application and conditioning of selected developed skills 2. Strength: Maximising strength development in a specific controlled manner 3. Fitness: Maintenance of aerobic fitness while developing anaerobic capacity 4. Flexibility: Development of dynamic flexibility specific to required skills 5. Rehabilitation: Management of rehabilitated injuries while preventing potential overtraining and injuries 6. Intensity/Volume: Medium to long sessions of medium intensity progressing up to high intensity
<p>Rest Cycle 2</p> <p>1 week</p>	<p>Active physical and mental recovery performing cross training activities that relieve specific stresses on soft tissues (muscles/tendons/ligaments) and joints</p>	

<p>Meso-Cycle 3</p> <p>8 weeks</p>	<p>Focus:</p> <ol style="list-style-type: none"> 1. Application of developed skills 2. Specific Conditioning 	<p>Components:</p> <ol style="list-style-type: none"> 1. Skill: Application of gained skills to the specific requirements of the competition/grading 2. Strength: Maintaining strength while applying power and speed development specific to the physical demands of competition/grading 3. Fitness: Specific anaerobic interval conditioning according to the physical and skill requirements of the competition/grading 4. Flexibility: Application and development of specific dynamic flexibility to the physical and skill demands of the competition/grading 5. Rehabilitation: Overall injury prevention and management 6. Intensity/Volume: Shorter sessions of very high intensity
<p>Rest Cycle 4</p> <p>1 week</p>	<p>Active and mental physical recovery performing light specific drills according to the requirements of the competition/grading</p>	

This periodised training programme can either be expanded on or condensed depending upon the preparation time available leading into a competition/grading.

The Micro-Cycles would consist of the detailed weekly training programs that make up and serve the purpose of each Meso-Cycle.

“If you fail to plan, you plan to fail”



3. Quality Strength Training for Taekwon-Do

“It is not what you do but what you put into what you do that counts”

Strength training is a vital fitness component for both the art and sport of Taekwon-Do, as it not only enhances strength, power and speed, but also improves joint stability and reduces the risks of injury.

Most professional and Olympic athletes incorporate strength training as an essential part of their training regime for these obvious benefits.

One of the biggest obstacles to doing strength training for Taekwon-Do practitioners, athletes and even the general public is finding the time to do it, as most strength programs require you to do it for at least an hour a day for multiple days per week. This can be difficult to commit to in a time starved society.

This is not practical for most athletes due to the limited time available in their week because of their other training commitments for their sport, which itself is physically demanding enough, before “throwing in” a few extra hourly sessions of high intensity strength training on top of their already overloaded week. In many cases the addition of strength training into an already heavy loaded training week can have the adverse effects of overtraining, decreased performance and eventually injury. The exact opposite of what was intended.

The good news, research shows that strength training does not have to be a time and energy draining activity. Performing a well-structured, balanced and quality strength training program for less than half an hour once a week will provide the same if not better results as multiple one hour strength training sessions. When it comes to strength training, quality is more important than quantity.

So stop wasting your limited training time on strength training sessions that are counterproductive, provide no extra benefit and can lead to injury, and start using it as effectively and time efficiently as possible.

Frequency of Training per Week

One strength training session per week is all that is required since muscles can take more than seven days to fully recover, regenerate and overcompensate (get stronger) after a quality, high intensity strength training session. So if you train all your muscles on the one day, it will take up to a week before those muscles are physically ready to be trained again. (Especially athletes who have many other training activities on their agendas)

Training muscles prior to being fully recovered can lead to diminishing returns, overtraining and eventually injury. Particularly as your Taekwondo-Do training is already placing high levels of physical demand on your muscles, tendons and joints.

Performing a full body strength training session once each week is all that is required to gain maximal results in strength and power development.

This allows plenty of time for recovery and more time for practicing Taekwon-Do or Taekwon-Do specific training techniques. Any more than this is not only a waste of your valuable training time but can lead you down the path to injury.

Which Exercises to Do

The body performs as a whole, not as a sum of its individual parts, so it is important to train it as a whole. Therefore performing more functional multi joint compound exercises such as bench presses and squats, rather than dysfunctional single joint exercises such as leg extensions and chest flys will provide greater results in specific strength, power and muscle size. (See table of exercises below)

These compound exercises also reduce the stresses across the loaded joints as they simultaneously activate all the muscles around the joint to stabilise it. Isolated single joint exercises only act on one side of the joints placing isolated stresses on the joint causing shearing forces across the joints. These shearing forces can lead to joint degeneration, osteoarthritis, tendonitis, ligament damage, joint pain and injury.

Compound exercises such as squats, deadlifts, bench presses and rows are more functional and specific to sporting and Taekwon-Do movements. They also train and condition the stabilisers such the “core” muscles in a functional manner. There is no need and no benefit to waste more training time on specific core or arm exercises such as crunches, sit ups, planks, shoulder presses, shoulder lat and front raises, bicep curls and tricep extensions etc.

A program that incorporates 1-2 compound “push” exercises such as barbell bench presses, dumbbell bench presses and dips; 1-2 compound leg exercises such as barbell or dumbbell squats and lunges, and 1-2 compound “pull” exercises such as seated or dumbbell rows, lat pulldowns and chin ups, will train all the muscles of the body in the most effective and functional way.

If you want big results, perform big functional compound exercises in all the major movement patterns. If you want little results perform little dysfunctional isolated exercises that in many cases not only waste your time but promote joint stress and injury.

Number of Sets per Exercise

One maximal set is best for all required outcomes, especially for increasing strength and power. It is not how many sets you need to do but how little you need to do to perform your best lift. If you perform your best lift with 100% intensity to absolute maximum effort, it is unlikely you could do it again to the same level of performance due to fatigue, therefore there is no extra benefit in doing it again if your performance is declining. Remember your goal is to train for strength not endurance. Endurance is better trained performing Taekwon-Do specific exercises and conditioning drills.

After performing a warm up and preparation set of around 5 repetitions at a submaximal weight (approximately 50% of your target training weight), load up your exercise with your maximal target weight and perform as many repetitions as possible above your target

Strength Training Exercises and Targeted Muscles

Exercise and Major Muscles Worked	Exercise Demonstration
<p>Squats— <i>Legs and Torso</i> Quadriceps, Gluteals, Hamstrings, Calves, Abdominals, Obliques and Erector Spinae</p>	
<p>Dead Lifts— <i>Legs and Torso</i> Quadriceps, Gluteals, Hamstrings, Calves, Abdominals, Obliques and Erector Spinae</p>	
<p>Lunges— <i>Legs and Torso</i> Quadriceps, Gluteals, Hamstrings, Calves, Abdominals, Obliques and Erector Spinae</p>	
<p>Bench Press— <i>Chest, Shoulders and Arms</i> Pectoralis Major, Deltoids and Triceps</p>	
<p>Dips and Push Ups— <i>Chest, Shoulders and Arms</i> Pectoralis Major, Deltoids and Triceps</p>	
<p>Seated and Dumbbell Rows— <i>Back, Shoulders and Arms</i> Latissimus Dorsi, Deltoids, Biceps, Trapezius and Rhomboids</p>	
<p>Chin Ups and Lat Pulldowns— <i>Back, Shoulders and Arms</i> Latissimus Dorsi, Deltoids, Biceps, Trapezius and Rhomboids</p>	

repetition range until complete volitional failure (if you are experienced) while maintaining perfect form and technique.

If you are not an experienced lifter then complete as many repetitions as you can comfortably perform with the aim to always improve on your last performance either by increasing the repetitions or the weight lifted.

Once you have completed your one best set, move onto the next exercise and aim to perform your one best set on it, with the aim to always to improve on your performance from your previous workout by increasing the repetitions or the weight. The one and only goal is to get stronger, not to do more sets but rather to put more effort into the sets you are doing.

Number of Repetitions per Set

Performing 6 to 12 repetitions with 100% effort with a maximal load will enhance strength and power. Doing more repetitions than this with a lighter load will start to promote endurance rather than strength, which as mentioned previously is better developed performing Taekwon-Do specific conditioning drills.

For safe lifting progressions, a less experienced trainer should perform not less than 8 repetitions with their best load per exercise, while an experienced lifter should perform not less than 5 repetitions with their best load per exercise. Best load per exercise means a maximum load that will make you fatigue at the target repetitions. This load will increase as you get stronger. It is sometimes referred to a Repetition Maximum (RM), meaning the maximum amount of weight you can lift for the chosen repetitions.

It is not how many repetitions you do that is most important, but how much effort you put into the repetitions.

Speed and Form of Exercise Execution

When lifting the weight always lift with perfect form and technique at a speed that you are controlling the weight, not the weight controlling you. Using momentum, cheating, partial and bouncing movements to move the weight will only provide misleading and false results while placing further stresses on the tendons, ligaments and joints eventually causing degeneration and injury.

Lifting with correct form and technique through a full functional range of movement will maximise your results safely.

Design Your Own Strength Training Program

Pick 1-2 exercises only from each box below and perform as many repetitions as possible with a weight that will force you to fatigue at no less than 12 repetitions for a less experienced lifter and no less than 8 repetitions for a more experienced lifter.

- Pick exercises that you enjoy and can do competently with no joint pain.
- Perform once per week on a day that does not interfere with your other training.
- Perform a general warm up first.
- Chose a weight that will make you fatigue at your chosen repetition selection.
- Do a warm up or preparation set with a submaximal weight first.
- Perform only one working set per exercise with your best weight to absolute failure.
- The goal is to get stronger by either increasing the repetitions or the weight lifted.
- Lift with a speed that you can control the weight.
- Maintain perfect technique and form for safety.

It is not how often you strength train or how many exercises, sets and repetitions you do, it is what you put into your training that will give you the results you want. Shorter less frequent training sessions executed with quality and intensity is far better than longer more frequent training sessions performed with fatigue and casualness, which will lead to casualties with you being the casualty.

“A little bit of something is a lot better than a whole lot of nothing”

Push Exercises	Leg Exercises	Pull Exercises
Barbell Bench Press	Dumbbell Squats	Cable Seated Rows
Dumbbell Bench Press	Barbell Deadlifts	Lat Pulldowns (close reverse grip)
Single Dumbbell Bench Press	Barbell Squats	Dumbbell Bentover Rows
Dips (weighted if needed)	Dumbbell Lunges	Chin Ups (close reverse grip)
Push Ups (weighted if needed)	Barbell Lunges	Single Cable Rows

4. Quality Fitness Training for Taekwon-Do

Cardiovascular fitness is one of the foundation fitness components required for Taekwon-Do. Training to improve cardiovascular fitness, not to mention the technical needs of Taekwon-Do, can be very time demanding.

In a time starved world, scientifically based, effective, time efficient training is a preferred option for the serious athlete and busy recreational sportsperson of today.

Training for the cardio vascular fitness requirements of Taekwon-Do, whether it be for a grading, competition or to just be fit to practice Taekwon-Do, can be achieved in just minutes of training per day.



Taekwon-Do is an interval based art or sport, meaning that it consists of work intervals followed by rest intervals, such as patterns, set sparring and rounds of sparring. When performing patterns, each pattern takes just over a minute to perform, and is generally followed by a short rest before performing the next pattern. A sparring bout consists of 2 minute rounds of sparring followed by 1 minute of rest. Even during a round of sparring, the intensity of the sparring will vary throughout the round.

In order to increase your cardiovascular fitness for Taekwon-Do, or any interval based sport for that matter, the traditional way of Long Slow Distance (LSD) training, such as long runs, is not only nonspecific but can be less effective, wastes time and may lead to accumulative repetitive injuries.

If the goal is to get fit for Taekwon-Do, then train according to the specific physical needs of Taekwon-Do by structuring your fitness program with the work and rest intervals that are relative to Taekwon-Do. The best form of training that replicates the Taekwon-Do's physical needs is High Intensity Interval Training (HIIT).

Interval training is when the training program consists of a short high intense period of exercise (30 seconds to 2 minutes), followed by an active or passive period of recovery (10 seconds to 1 minute), with this pattern repeated until the training session is complete. An interval training session can be as short as 5 minutes and can last up to 20 minutes.

Current research shows that shorter, HIIT as opposed to LSD training, will not only get you fitter, but will also provide added health benefits (such as reduction in coronary heart disease) and help you lose fat faster.

The training intensity achieved in HIIT is higher (85-95% effort) than in LSD training (70-85% effort), meaning that it pushes the cardiovascular system to a higher intensity and threshold, forcing a great physiological adaptation making you fitter and increasing your body's ability to use fat as a source of energy.

“The focus of High Intensity Interval Training is quality of training rather than quantity of training”

High intensity interval training will turn your body into a “fat burning machine” by increasing your aerobic capacity, muscle density, metabolic rate and changing your Respiratory Quotient. Your Respiratory Quotient (RQ) determines if your body is using fat or carbohydrates as a source of fuel during exercise and at rest. The fitter you become the more your RQ adapts so that your body burns fat as the preferred source of fuel rather than carbohydrate. This increases your overall fat burning capacity.

This means, fitter people burn fat faster. Therefore it is better to focus your training on getting fitter by using HIIT rather than LSD training.

A simple demonstration of the difference in results between the two types of training is to compare the physiques of a sprinter versus a marathon runner. The sprinter is leaner, stronger and faster which is more suited to the physical requirements of Taekwon-Do.

HIIT is also far more time efficient as you can complete an effective training session in as little as 5-10 minutes whereas LSD training normally takes between 20-40 minutes.



There are many ways to design an HIIT session. The important thing is to focus on the end goal and the desired physical outcome, and to make it as specific to that goal as possible. For example, doing interval swim training will get you fitter, however it's transference to Taekwon-Do fitness would be reduced due to its less specific nature. If you want to get fit for kicking, then best do kicking interval training; if you want to get fit for sparring, then best do sparring interval training; if you want to get fit for patterns, then best do pattern interval training. Make your training specific as possible to what you will physically experience in the competition or grading.

In addition to doing these Taekwon-Do specific training intervals you could also include less specific, general, physically demanding exercises such as burpees, jump squats, push ups, sprints etc. However be careful not to overdo these when you can be doing more specific exercise drills, as you are not entering a burpees competition.

Intensity of Intervals

Cardiovascular intensity is best measured by monitoring your training heart rate. A heart rate training zone of 70-85% of your Maximal Heart Rate (MHR - calculated by deducting your age from 220 - see table) is commonly used for general fitness and LSD training. A heart rate training zone of 85-95% of your MHR is best used and preferred for HIIT. The work interval is then followed by a short active or passive rest interval to recover before you perform another high intense work interval. These intervals are repeated until you fatigue and cannot continue, or have achieved the set number of intervals planned.

You can also measure training intensity by the Perceived Rate of Exertion (PRE) Scale. This is done by giving yourself an intensity score between 1 (feels very easy) and 10 (feeling completely physically exhausted) if you do not wish to or cannot measure your training heart rate. In this case you will aim to achieve a training interval intensity of at least 8 out of 10 on the PRE Scale.

If you are deconditioned, you may wish to start interval training at lower intensities, say 70-80% intensity and gradually increase the interval intensity over the training weeks and work yourself up to desired training intensity of 90% and above. By the time of competition or grading, your aim would be able to train at a PRE of at least 9 or 90% of MHR training intensity for multiple intervals.

Target Heart Rate Maximum Target Training Zones							
	Approximate maximum heart rate	Maximum target training zones (beats per minute)					
Age	Heart rate	60%	65%	70%	75%	80%	85%
20	200	120	130	140	150	160	170
25	195	117	127	137	146	156	166
30	190	114	124	133	143	152	162
35	185	111	120	130	139	148	157
40	180	108	117	126	135	144	153
45	175	105	114	123	131	140	149
50	170	102	111	119	128	136	145
55	165	99	107	116	124	132	140
60	160	96	104	112	120	128	136
65	155	93	101	109	116	124	132
70	150	90	98	105	113	120	128
75	145	87	94	102	109	116	123
80	140	84	91	98	105	112	119

Number of Intervals

The number of intervals performed should be determined by the number of intervals you will have to be conditioned for in the grading or competition. For example, if you are training for sparring which consists of 2 rounds of 2 minutes with a minute in between, then you should be able to endure at least 3 intense interval bouts (1-2 minutes) with short rest intervals (30-60 seconds) without a reduction in training performance. Remember you may be required to fight multiple bouts in a competition if there are many competitors.

You may start at 1 to 2 intervals of exercise and work your way up to 5-10 work intervals over the training weeks leading up to the competition or grading. How many intervals you work up to depends on the physical endurance demands of the tournament or grading.

The Work/Rest Ratio

The time intervals for the work and the rest bouts will be determined by your fitness level and/or the goal. If you are unfit you may wish to start with a short work interval and a long rest interval. As you get fitter you can increase the work interval and decrease the rest interval. See the table below as a guideline to work/rest interval progressions. The length of the work and rest intervals should be determined by the work/rest ratios of the competition and grading demands.

If you are training for 2 two minute rounds with a one minute rest in between, you ultimately should be able to comfortably train 3 for three minute rounds with a 30 second rest in between. This not only overloads the rounds by making them longer but also the rest intervals by making them shorter, and the number of rounds by doing at least an extra round.

	Unfit	Average Fit	Fit	Very Fit	Elite Fit
Intensity	70-80%	75-85%	80-90%	85-95%	90-100%
Work Interval	30 sec	30sec	60sec	30-60sec	15-90sec
Rest Interval	60 sec	30 sec	60sec	15-30sec	5-30sec
Work/Rest Ratio	1:2	1:1	1:1	2:1	3:1

Interval Exercises

There are two types of exercises you can use in your work intervals. General fitness exercises or specific fitness exercises. General fitness exercises are exercises such as burpees, push ups, jump squats etc while specific fitness exercises are specific to Taekwon-Do such as repeated and combination punches and kicks. See table below for samples of general and specific exercises that can be included in an interval training program.



General Exercises	Specific Exercises
<ul style="list-style-type: none"> • Squats • Jump squats • Lunges • Jump lunges • Push ups • Dips • Chin ups • Clap push ups • Burpees • Mountain climbs • Shuttle sprints • Stair sprints • Hill sprints • Fast skipping • Step ups • Cardio equipment such as bikes, steppers, rowers, treadmills <p>Or any combination of the above such as...</p> <ul style="list-style-type: none"> • 5 squat jumps/5 clap push ups then repeat for the time interval • 5 burpees/5 shuttle sprints/10 mountain climbs then repeat for the time interval • Hill sprint/10 push ups/downhill run/10 jump lunges then repeat for the time interval • 1 push up/1 jump squat/1 dip/1 burpee then repeat with 2 of each, then repeat with 3 of each until you reach 10 of each 	<ul style="list-style-type: none"> • Fast repeated kicks or combination kicks such as turning kicks, side kicks, front kicks on a bag, focus pad or in the air for the interval • Fast repetitive punches or punch combinations on a bag, focus pad or in the air for the interval • Fast repetitive kick and punch combinations on a bag, focus pad or in the air for the interval • Sparring on the bag, focus pads or shadow sparring for the interval • Varying the intensity during the sparring on the bag, focus pad or shadow sparring throughout the interval e.g. 20 seconds normal sparring followed by 10 seconds maximal intensity sparring repeated • Performing all the patterns from white belt up to your belt and back down to white belt again with 10 second rest in between each pattern <p>Or any combination of specific and general exercises such as...</p> <ul style="list-style-type: none"> • 10 repeat kicks on each leg/2 shuttle sprints then repeat with a different kick for the interval • 10 squat kicks on each leg/10 push ups/10 fast repeat kicks on each leg then repeat with a new kick for the

<ul style="list-style-type: none">• 30-60sec all out sprint on the bike or rower for the interval then repeat after rest interval• 30sec bike/30sec rower sprints then repeat	<p>interval</p> <ul style="list-style-type: none">• 20 fast punches/5 push ups/10 fast alternating turning kicks/5 push ups then repeat for the interval with a new kick
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Each work interval can either be the same exercise or combination of exercises, or you can mix it up with general and/or specific exercises between the intervals.

The closer you get to the competition or grading the more Taekwon-Do specific exercises should be used in the intervals.

Training Frequency

Your fitness level, training intensity, session duration and exercise selection will determine the frequency of your interval training. A short 5-10 minute interval session can be performed every day or maybe every second day. It can be easily added onto the end of a traditional Taekwon-Do class as it does not take much time to perform. Aim to do at least 2-3 sessions per week and more if you are up to it and have recovered from the other training sessions. Fit it into your week where you can and build on it as you get fitter by increasing intensity (effort), number of intervals or number of interval sessions in the week.

In terms of training frequency, make sure you take into consideration that more stressful training sessions that include high impact exercises such as jump squats, box hops and clap push ups may take longer to recover from. While other less stressful training sessions that include lower impact exercises such as bike, squats and shadow sparring will take less time to recover from. Listen to your body and ensure it is recovered for its next high intensity training session by having more recovery time or adapting the intensity of the session by incorporating less stressful exercises.

Combine HIIT with quality strength training and you can get fit and strong for Taekwon-Do by performing as little as one short strength training session and 2 short HIIT sessions per week.

Since HIIT can be performed anywhere and is so time efficient, it will not steal time from other forms of training or life activities, therefore there is no excuse not to do it and not to be a fit Taekwon-Do practitioner.



“You can get fit or make excuses, but you cannot do both”

5. Quality Flexibility Training for Taekwon-Do

Taekwon-Do is renowned for its dynamic explosive high kicks. To execute such spectacular kicks requires a combination of strength, power, mobility and flexibility. The foundation for performing these kicks is to develop ones flexibility.

There are various forms of flexibility techniques ranging from passive to active stretching. The flexibility required for Taekwon-Do includes dynamic flexibility so as to perform explosive kicks such as jumping high kicks performed in sparring and special technique, to controlled range of movement (ROM) flexibility so to perform controlled slow kicks performed in patterns.

It is therefore appropriate to train specifically for the type of flexibility that is required for Taekwon-Do so as to gain the greatest training returns, as measured by kicking performance.

The development of a stretching program, like most training programs should be structured in a progressive format that will lead to an increase in performance that is specific to Taekwon-Do. Types of stretching that can be used in a periodised stretching program include a range of passive and active stretching techniques.



Passive Stretching

Passive stretching is the traditional and most common way to stretch and is the foundation of increasing ones mobility about specific joints as it focuses on increasing the range of movement of the joints in a passive position.

Static stretching, such as a seated straight leg hamstring stretch, is the most common passive stretching technique used. It involves the lengthening of the soft tissue (muscles, tendons and fascia), nerves (Peripheral Nerves System) and sensory organs (Muscle Spindle and Golgi Tendon Organs) over a joint in a static position, holding the stretch for a period of time (generally more than 10 seconds), then releasing the stretch and repeating it numerous times. Over time the soft tissues, nerves and sensory organs will increase their ability to lengthen the muscle increasing the range of movement about that joint.

Static stretches are commonly used by Taekwon-Do participants to increase the flexibility of the specific muscles used for kicking. These stretches in many cases, such as a seated straight leg hamstring stretch, maybe muscle specific but not necessarily body or joint position specific to Taekwon-Do kicks, such as a high front or side kick. For example, it would make sense that if you wanted to develop the flexibility in the hamstrings to perform a higher front kick (in the kicking leg) or side kick (in the supporting leg), then the ideal position to stretch these muscles would be in the upright position that is similar in body and joint position to the kick, rather than lying on the ground stretching the muscles in a non-body or joint specific position. (See Flexibility Table)

Why would you lie on the ground to stretch muscles that require flexibility, stability and perform in the upright position. If you want to stretch muscles that require flexibility in the upright kicking position, then stretch them in the upright position that closely matches the desired kicking position so as to increase the flexibility and stability in a manner as closely as possible to the kick.

Proprioceptive-Neuromuscular Facilitation (PNF) stretching is another form of static stretching that stimulates the Sensory Organs (Muscle Spindle and Golgi Tendon Organs) in the muscle to aid in increasing flexibility.

PNF stretching involves stretching a muscle to its full length either by yourself or with the aid of a partner, then while in the fully stretched position forcefully contracting the stretched muscle for up to 10 seconds, which activates the Golgi Tendon Organ (which is a protective sensory organ which monitors and controls the amount of force and tension a muscle is allowed to generate), which triggers the relaxation of the muscle to protect it from over exerting itself from the increasing tension from the contraction, at which time one consciously relaxes the muscle while passively stretching it to a greater length. This is then repeated multiple times to increase the muscles ability to lengthen and joint range of movement.

The best use and application for static stretching is to increase the range of movement about a joint particularly in the early stages of flexibility development or during the rehabilitation process to maintain or regain flexibility. As your flexibility increases to the desired level, then it would be appropriate to move on to more specific active stretching techniques while maintaining this base of passive flexibility.

Active Stretching

Active or dynamic stretching is a more progressive and Taekwon-Do specific form of stretching that develops flexibility that closely replicates the desired skill or kick. It involves taking the joints through the desired range of movement in the kick specific body position while activating the muscles that are responsible for performing the kick and stabilising the associated body parts while dynamically stretching the muscles that are lengthened during the kick.

This form of stretching includes Range of Movement (ROM) stretching which can be performed with a controlled movement such as standing straight leg lifts, or for the more advanced participant using momentum to make the movement more dynamic and even with a controlled ballistic (bouncing) action at the end of the movement. These stretches not only mobilise the joint (by releasing synovial fluid in the joint - a joint lubricant) they stretch the soft tissues (muscles, tendons and fascia) and peripheral nerves, but also condition and desensitise the Sensory Organs, particularly the Muscles Spindle (which monitors and controls the rate of lengthening of a muscle) so to neurologically release the muscles to reach a greater range of movement and muscle lengthening.

These stretches include dynamic front or side straight leg lifts to a comfortable progressively increasing height. Even performing the desired kick to a progressively increasing height with control or even with a controlled end of range bounce will make the

Sample of Progressional Stretches for the Side Kick

Stretches	Stretch Demonstration
<p>Static Stretch</p> <p>Hold stretch for 10 seconds plus then Repeat multiple times</p>	
<p>Static Kick Specific Stretch</p> <p>Hold stretch for 10 seconds plus then repeat multiple times</p>	
<p>Static PNF Kick Specific Stretch</p> <p>Hold assisted stretch - contract stretched muscle for 5 seconds - stretch relaxed muscle further - then repeat multiple times</p>	
<p>Active Range of Movement Stretch</p> <p>Move through range of movement with control</p> <p>Active ROM Ballistic Stretch</p> <p>Use controlled momentum to bounce at top for extra range and stretch</p>	
<p>Active ROM Kick Specific Stretch</p> <p>Move through kicking range of movement with control</p> <p>Active Kick Specific Ballistic Stretch</p> <p>Use controlled momentum to bounce at top for extra range and stretch</p>	

stretch even more specific to the desired outcome. This recognises that Taekwon-Do is a dynamic martial art which requires explosive ballistic flexibility.

The best use of active stretching is to make the stretch more specific to the dynamic action of kicking. It should be used once a good base of passive flexibility has been achieved and progressed using Range of Movement (ROM) stretching moving on to controlled dynamic stretching and finally to controlled ballistic stretching.

It is important to progress these stretching exercises safely within a stretching routine and from progressing from one routine to another. This should always incorporate a good general warm up before starting any stretching routine followed by controlled range of movement stretches, then some static stretches, then controlled dynamic stretches and finishing with controlled ballistic stretches using specific stretching techniques that replicate the desired kicking action. You may finish off with some more aggressive static stretches to increase Range of Movement such as PNF stretching considering that the muscles are now very warm and pre-stretched.

Some Useful Stretching Progressions and Guidelines

1.	Always warm your body and muscles up with a general warm up before stretching
2.	Start with controlled progressive dynamic Range of Movement (ROM) stretches
3.	Perform specific static stretches
4.	Progress to controlled specific Dynamic Stretches relative to kicking
5.	Advance to more controlled Ballistic Stretches with a controlled bounce at end ROM
6.	Complete with kicking while progressing the height of the kick
7.	Finish with advanced static stretching such as assisted PNF stretches
8.	Perform 5 minutes of stretching after every training session
9.	Do flexibility training at least 3 times per week
10.	If you are feeling tighter and sorer, take 1-2 days off to allow muscle regeneration
11.	Relaxing music helps you enjoy your stretching - have fun

Improving your flexibility will not only be beneficial to your Taekwon-Do performance, but will provide other health benefits including

- Increasing joint mobility
- Decreasing joint stresses
- Improving posture
- Decreasing muscle tension
- Reducing joint pains
- Injury prevention
- Speeding up recovery
- Enhancing quality of life

It is important to develop your flexibility according to your goals while taking into consideration your limitations. Not everyone has the genetics, youth, physical ability or desire to become super flexible, however everyone can improve their flexibility so it is recommended that you set your goals accordingly.

“Stretch yourself to expand your boundaries and opportunities”



6. Making Weight for Taekwon-Do

Getting into shape for a grading or competition is a regular practice for any progressive and competitive Taekwon-Do practitioner. In many cases, this does not only mean getting fitter but also achieving a precise optimal bodyweight to be able to perform to your potential or to make a competitive weight class.

Unfortunately, like much of the population, many Taekwon-Do practitioners take part in physically and psychologically unhealthy diets to lose weight either deliberately or unknowingly.

The purpose of this article is to give you some common sense healthy guidelines on how to lose weight for a grading or competition and be able to keep it off so that you no longer have to “yo yo” diet your weight up and down. It is recommended if you wish to lose weight in the healthiest way or if you have a medical condition then consult with a qualified sports dietician.



Here are five steps to a healthy weight loss to make your ideal competitive weight.

Step 1 - Determine Your Ideal Weight

The first step is to determine the weight that you perform your best at and aim to get to that weight in a healthy way and to be able to stick to it all year round. For a weight category competitor, you should never be any more than a few kilograms off your competition weight, which means you will only have to slightly adapt your eating plan a few weeks prior to the completion to make weight, rather than a long drawn out weight loss schedule.

Step 2 - Keep the Foods You Love

The second step is to determine what are the foods you love to eat and cannot go without, and work out a way to include these foods into your year round eating plan. If your favourite foods are high in calories/fat then look at ways to reduce the calories from that food. An example would be if you love pasta, then there are four ways you can reduce the calories. 1. Reduce the serving size of the meals 2. Reduce the frequency of the meals 3. Replace the high calorie/fatty sauces (creamy based sauces) and fillings with low calorie/tomato based sauces and fillings, and 4. Expend more energy via movement and exercise to counteract the extra calorie intake.

What is important however, is not to give up your favourite foods, because when you give up what you love, you want it even more. This makes the eating plan not very enjoyable and will promote a psychological and eating rebound after the grading or competition eventuating with you putting the weight back on and more. This will make it harder next time to lose the weight again both psychologically and physiologically.

Step 3 - Eat High Nutritious Foods

The third step is to pick tasty high nutritious foods as your main food source. These foods tend to come from out of the ground which includes vegetables, fruits, grains and cereals. The less processed these foods are generally means they are still rich in nutrition (essential vitamins and minerals) and are ideal in energy (carbohydrate and fats). A good way to look at any meal plan is... two thirds of what you eat should look like it came out of the ground (unprocessed vegetables, fruits, grains and cereals) and one third from other sources (meats, dairy and treats). Then adapt the amounts you eat to your activity levels and weight goals. If you move more, eat more... if you move less, eat less. If you want to lose more, eat less... if you want to lose less, eat more.

Step 4. Burn Off More than You Put In

The fourth step is to your match weight goal with you eating plan and activity levels. The law of physics states that energy cannot be created or destroyed, it can only change its form. This basically means if you put energy into your body you have to burn it off, or you will store it. So to get a deficit between energy in and energy out to lose weight, you have burn off more energy than you are putting in. So to lose weight you have to either expend more energy via movement/exercise or eat less energy (Calories) via a healthy eating plan.

In regards to exercise, high intensity interval training makes you fitter which increases your fat burning capacity, while strength training increases your metabolic rate and energy burning capacity.

In regards to nutrition, you can reduce calories in your eating plan by decreasing your serving sizes and/or reducing, replacing or eliminating high energy fatty and sugary foods and replacing these with high nutritious medium energy foods.

Step 5 - Set a Healthy Time Frame

The fifth step is to set an achievable time frame to lose the required weight without compromising your health. A good healthy guideline for weight loss would be about a ½ to 1 kilogram of weight loss per week. Half a kilogram of weight loss per week is technically a deficit of 4500 calories (1 kilogram of fat contains 9000 Calories) across 7 days, being a daily deficit of 1285 Calories a day which is achievable for an active athlete.

An active 70kg male Taekwon-Do practitioner who trains 1 hour a day of high intensity activity will burn off about at 3500 Calories per day (2500 Calories from their daily resting metabolic rate plus 1000 Calories per day from training). This means that they can eat 2215 Calories from healthy nutritious food sources to achieve the required daily 1285 Calorie deficit to achieve the half a kilogram of weight loss per week. These are only estimates and will vary from person to person and be influenced by weight and gender.

Essentially, if you are not losing weight then you can either move/exercise more or eat less to achieve your required deficit. It is important that in this process you choose foods that are high in nutritional value so to contribute to your Taekwon-Do performance.

Ten Do's and Don'ts for Healthy Weight Loss

	Don't	Do
1	Aim to lose too much weight too fast - you will lose muscle, strength, energy and performance	Give yourself plenty of time to lose the desired weight in a healthy manner while keeping your muscle, strength, energy and performance
2	Follow someone else's diet - you may not like it	Structure your own eating plan around the nutritious foods you enjoy
3	Give up the foods you enjoy and include foods you do not enjoy - you will not enjoy the diet	Include all the foods you enjoy and adapt the amounts according to the weight loss goal
4	Give up specific food groups that are full of nutrition eg meats, dairy etc - you will miss out on essential vitamins and minerals	Keep all the healthy foods groups and adapt the serving sizes according to your weight loss goal
5	Lower exercise intensity to burn fat - all you do is reduce energy expenditure	Increase exercise intensity to get fitter - fitter people burn fat faster
6	Relax too much between training sessions	All daily incidental activity contribute to energy expenditure and boosts your metabolism
7	Give up strength training - you will lose muscle and lower your metabolic rate	Do strength training to boost your metabolic rate and increase your performance
8	Follow any form of diet that replaces food with powders, shakes and pills - you will miss out on vitamins and minerals in their natural balanced state	Follow an eating plan that comprises of whole natural foods for good health
9	Dehydrate to lose weight - you will reduce energy and performance	Maintain high fluid consumption and allow no more than 1 kg to be dehydrated off the day before weigh-in to maintain your energy
10	Be grumpy and negative - you annoy the people around you	Be happy and positive - you will be enjoyed by the people around you

Conclusion

Whether you are practicing Taekwon-Do for recreation, general fitness, to grade or to compete, it is advised that you find the best way to train using common sense and scientific principles while taking into consideration your goals, lifestyle and time limitations.

Be smart when designing a training program to achieve your short and long term goals by using the SMARTIES principle.

S = Something you can stick to for the rest of your life

M = Moderation

A = Achievable

R = Realistic

T = Time efficient

I = Interesting

E = Enjoyable

S = Scientifically based

Have fun designing your training program that will help you achieve your Taekwon-Do goals while adding value and health to your life.

“Taekwon-Do is not a sport or a recreational hobby

It is a lifestyle and a way of life”

