



***THE BLACK BELT
HANDBOOK***



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BLACK BELT GOAL

As a black stripe or a black belt, you will find that your levels of performance must be of a consistently high standard. As you have now mastered the basics, you will need to discover what techniques work best for you and focus on perfecting them.

However, this does not mean that you should forget practising the basics. Basics form the core backbone of everything we do, and the more advanced content falls apart without them. This will be needed for tuition in the class, and also needed for your Dan gradings.

In addition, self-defence techniques at a black belt level should be very effective. You should start to think about applying ground restraints and joint locks into your defences.

Patterns for black belt training and Dan gradings are also a lot more complex, so home practice is recommended to perfect these patterns. There are three patterns for each Dan grade up to fourth, two at fifth, and one at sixth. The variation of time for each grade are as follows:

Black Belt Pattern Timetable

Name Of Pattern	Number Of Movements	To Be Learned At This Grade	Length Of Time
Kwang-Gae	39	1 st Dan	18 Months
Po-Eun	36	1 st Dan	
Ge-Baek	44	1 st Dan	
Ko-Dang	39	2 nd Dan	2 years
Eui-Am	45	2 nd Dan	
Choong-Jang	52	2 nd Dan	
Sam-Il	33	3 rd Dan	3 years
Yoo-Sin	68	3 rd Dan	
Choi-Yong	46	3 rd Dan	
Yon-Gae	49	4 th Dan	4 years
Ul-Ji	42	4 th Dan	
Moon-Moo	61	4 th Dan	
So-San	72	5 th Dan	5 years
Se-Jong	24	5 th Dan	
Tong-Il	56	6 th Dan	6 years

Always continue to practice your colour belt patterns too, as you will be asked to perform them at your Dan gradings.

Many students who have received their black belt go on and try another martial art to help them on their journey. This is a positive step because it will work alongside your Tae Kwon Do training, improving both your offensive and defensive skills.



OVERVIEW

You will find some useful information within this handbook to help you on the way to becoming the best that you can be.

We also offer dedicated black belt classes. Please ensure you attend these as often as possible as they are specifically tailored towards black belts, to make you better.

Prior to your black belt grading you will be asked a series of questions by your chief instructor, this will happen approximately two weeks to your grading date. Please ensure to learn the following:

- Colour belt meanings
- Colour belt pattern meanings
- Black belt grading question/answers
- Personal black belt questions
- Your relevant black belt pattern meanings

BELT MEANINGS

Please ensure to learn all colour belt meanings

WHITE	Signifies innocence, as that of a beginning student with no previous knowledge of Tae Kwon Do.
YELLOW	Signifies the Earth from which a plant sprouts and takes root as Tae Kwon Do foundations are being laid.
GREEN	Signifies the plant's growth as Tae Kwon Do skills begin to develop.
BLUE	Signifies the heaven towards which the plant matures into a towering tree as training in Tae Kwon Do progresses.
RED	Signifies danger, cautioning the student to exercise control and warning the opponent to stay away.
BLACK	Opposite of white, therefore signifying the maturity and proficiency in Tae Kwon Do. Also indicates the wearer's imperviousness to darkness and fear.



COLOUR PATTERN MEANINGS

Please ensure to learn all colour belt pattern meanings

Chon-Ji (19 Movements)

Literally means Heaven and Earth. It is in the orient interpreted as the creation of the world or the beginning of human history, therefore it is the initial pattern played by the beginner. This pattern consists of two similar parts; one to represent the Heaven and the other the Earth.

The low block represents the Earth and the middle block represents the heaven.

Dan-Gun Tul (21 movements)

Dan Gun is named after the Holy Dan Gun, the legendary founder of Korea in the year 2333 B.C.

Do-San Tul (24 movements)

Do-San is a pseudonym of the patriot Ahn Chang-Ho (1876 - 1938). The 24 movements represent his entire life which he devoted to furthering education in Korea and the Korean independence movement.

Won-Hyo Tul (28 movements)

Won-Hyo was the noted monk who introduced Buddhism to the Silla Dynasty in the year 686 AD.

Yul-Gok Tul (38 movements)

Yul-Gok is a pseudonym of a great philosopher and scholar Yi I (1536 - 1584) nicknamed the "Confucius of Korea". The 38 movements of this pattern refer to his birthplace on 38-degree latitude and the diagram of the pattern represents scholar.

Joong-Gun Tul (32 movements)

Joong-Gun is named after the patriot Ahn Joong-Gun who assassinated Hiro Bumi Ito, the first Japanese governor-general of Korea, known as the man who played the leading part in the Korea-Japan merger. There are 32 movements in this pattern to represent Mr Ahn's age when he was executed at Lui-Shung prison in 1910.

Toi-Gye Tul (37 movements)

Toi-Gye is the pen name of the noted scholar Yi Hwang (16th century), an authority on neo-Confucianism. The 37 movements of the pattern refer to his birthplace on 37-degree latitude, the diagram represents "scholar".

Hwa-Rang Tul (29 movements)

Hwa Rang is named after the Hwa Rang youth group which originated in the Silla Dynasty in the early 7th century. The group eventually became the actual driving force for the unification of the three kingdoms of Korea. The 29 movements refer to the 29th infantry Division, where Tae Kwon Do developed into maturity.



Choong-Moo Tul (30 movements)

Choong-Moo was the name given to the great Admiral Yi Soon-Sin of the Yi Dynasty. He was reputed to have invented the first armoured battleship (Kobukson) in 1592, which is said to be the precursor of the present day submarine. This pattern ends with a left hand attack, to symbolise his regrettable death. He was noted for his unrestrained loyalty to the King.

BLACK BELT GRADING QUESTIONS

These questions will be asked two weeks prior to your grading date with your chief instructor.

What does Tae Kwon Do literally mean / translate to?

Foot (Tae), Hand (Kwon), Way Or Art (Do).

Who founded Tae Kwon Do?

Tae Kwon Do was founded by General Choi Hong Hi, 9th Dan.

What are the 5 tenets of Tae Kwon Do?

Courtesy

Integrity

Perseverance

Self-Control

Indomitable Spirit

What part of the foot do you use when performing a side kick?

The foot sword (Balkal) (the outer edge of the foot – from the little toe to the heel).

What is the weight distribution in your legs, when performing an 'L' stance?

70% on the rear standing leg and 30% on the lead leg.

What part of the hand do you use when performing a straight punch?

The two inner knuckles.

What part of the foot do you use when performing a back kick?

The foot sword (Balkal) (the outer edge of the foot – from the little toe to the heel).

In Dan Gun, what height are the punches?

High section (eye level).

What is the weight distribution in your legs, when performing a walking stance?

50% on both legs.

What part of the foot do you use when performing a front and traditional turning kick?

The ball of the foot (Ap Kumchi).



Why do we learn three step sparring and three step semi-free sparring?

Three step sparring - is for developing Focus, Distance and Timing, as well as Stances, Blocks and Attacking Techniques.

Three step semi-free sparring - is to help develop the true art of sparring.

What part of the foot do you use when performing a hook kick?

The heel (Dwitchook).

What does a wedging block defend against?

A double handed grab, twin vertical punch, double handed push or two handed front Choke.

What is the weight distribution in your legs, when performing a sitting stance?

50% on both legs.

In Do San, what part of the arm do you use to block with, when performing the first block?

Outer forearm.

What does integrity mean?

Honesty; to define right from wrong.

What does perseverance mean?

To achieve a personal goal or perfect a new technique against any difficulties or obstacles.

Why do we “Ki Ha” on attacking techniques?

To make our techniques stronger, make us more confident, to scare and stun the opponent.

What part of the foot do you use when performing a spinning hook kick?

The heel (Dwitchook).

What is the ready position on Won-Hyo called?

Closed ready stance A.

What is the weight distribution in your legs, when performing a fixed stance?

50% on both legs.

What is the length between your legs, when performing a fixed stance?

Shoulder-and-a-half to double shoulders width apart.

What does Self-Control mean?

To control your actions and emotions, especially under stress, i.e. after being hit whilst sparring.

Why do we learn one step sparring?

One step sparring helps us with timings, speed, focus but the main importance is to allow us to use our Tae Kwon Do techniques more realistic in a real situation.



Why do you perform an arc hand block?

To use to grab the opponents arm after blocking.

In Yul Gok, what is the last technique?

High double forearm block.

Who founded Korea?

Holy Dan Gun.

In Yul Gok, what is the stance called when you perform with a back fist?

X stance.

Why do we learn two step sparring?

Two step sparring is designed for the intermediate student to learn more advanced techniques, practising timing and distance, but with more varied attacks.

What was the date Tae Kwon Do was founded?

April 11th 1955.

In Joong-Gun, what is the last technique?

U shape block.

What is the angle on the arm for a middle inner forearm block?

90°.

What is the angle on the arm for a rising block?

45°.

Why do we learn one step sparring?

One step sparring helps us with timings, speed, and focus, but the main importance is to allow us to use our Tae Kwon Do techniques more realistic in a real situation.

What is the ready position on Toi-Gye called?

Closed ready stance B.

In Toi-Gye, what is the last stance?

Sitting stance.

In Korean, what is a pattern called?

Tul.

What is the ready position on Hwa-Rang called?

Closed ready stance C.

Name all the kicks in Hwa-Rang?

Middle section side kick – High section turning kick.



Where did the Hwa Rang youth group originate from?

Silla Dynasty.

What does indomitable spirit mean?

Courage to believe in what is right and just, against any odds, i.e. going to the aid of an innocent person being attacked, no matter how many assailants there are.

What is the ready position on Choong-Moo called?

Parallel ready stance.

Name all the kicks in Choong-Moo?

Middle section side kick

Flying side kick

High section turning kick

Middle section back kick

What is the date mentioned in pattern Choong-Moo?

1592.

PERSONAL QUESTIONS - Please give an answer that is applicable to you.

Why did you start to learn Tae Kwon Do?

What has Tae Kwon Do done for you, why do you want your black belt?

What does a black belt mean to you?

What are you going to do with your Tae Kwon Do training if you get your black belt and how are going to tell other people about Tae Kwon Do?



BLACK BELT PATTERN MEANINGS

Kwang-Gae Tul (39 movements)

Kwang-Gae is named after the famous Kwang-Gae-Toh-Wang, the 19th king of the Koguryo Dynasty, who regained all the lost territories including the greater part of Manchuria. The diagram represents the expansion and recovery of lost territory. The 39 movements refer to reign for 39 years.

Po-Eun Tul (36 movements)

Po-Eun is the pseudonym of a loyal subject Chong-Mong-Chu (1400) who was a famous poet and who's poem "I would not serve a second master though I might be crucified a hundred times" is know to every Korean. He was also a pioneer in the field of physics. The diagram represents his unerring loyalty to the king and country towards the end of the Koryo Dynasty.

Ge-Baek Tul (44 Movements)

Ge-Baek is named after Ge-Baek, a great general in the Baek-Je Dynasty (660AD). The diagram represents his severe and strict military discipline.

Ko-Dang Tul (39 Movements)

Ko-Dang is the pseudonym of the patriot Cho Man Sik who dedicated his life to the independence and education of his people. The 39 movements signify his times of imprisonment and his birthplace on the 39th parallel.

Eui-Am Tul (45 Movements)

Eui-Am is the pseudonym of Son Byong Hi, leader of the Korean independence movement on March 1, 1919. The 45 movements refer to his age when he changed his name of Dong Hak (oriental Culture) to Chondo Kyo (Heavenly Way Religion) in 1905. The diagram represents his indomitable spirit, displayed while dedicating himself to the prosperity of his nation.

Choong-Jang Tul (52 Movements)

Choong-Jang is the pseudonym given to General Kim Duk Ryang who lived during the Yi Dynasty, 14th century. This pattern ends with a left hand attack to symbolize the tragedy of his death at 27 in prison before he was able to reach full maturity.

Sam-Il Tul (33 Movements)

Sam-Il denotes the historical date of the independence movement of Korea which began throughout the country on March 1, 1919. The 33 movements in the pattern stand for the 33 patriots who planned the movement.

Yoo-Sin Tul (68 Movements)

Yoo-Sin is named after General Kin Yoo Sin, a commanding general during the Silla Dynasty. The 68 movements refer to the last two figures of 668 AD the year Korea was unified. The ready posture signifies a sword drawn to the right rather than the left side, symbolizing Yoo sin's mistake of following his king's orders to fight with foreign force against his own nation.



Choi-Yong Tul (46 Movements)

Choi-Yong is named after General Choi Yong, Premier and Commander-in Chief of the armed forces during the 14th century Koryo Dynasty. Choi Yong was greatly respected for his loyalty, patriotism, and humility. He was executed by subordinate commanders headed by General Yi Sung Gae, who later became the first king of the Yi Dynasty.

Yon-Gae Tul (49 Movements)

Yon-Gae is named after a famous general during the Koguryo Dynasty. Yon Gae Somoon. The 49 movements refer to the last two figures of 649 AD the year he forced the Tang Dynasty to quit Korea after destroying nearly 300,000 of their troops at Ansi Sung.

Ul-Ji Tul (42 Movements)

Ul-Ji is named after general Ul-Ji Moon Dok who successfully defended Korea against a Tang's invasion force of nearly one million soldiers led by Yang Je in 612 AD, Ul-Ji employing hit and run guerilla tactics was able to decimate a large percentage of the force. The diagram represents his surname. The 42 movements represent the author's age when he designed the pattern.

Moon-Moo Tul (61 Movements)

Moon-Moo honors the 30th king of the Silla Dynasty. His body was buried near Dae Wang Am (Great King's Rock). According to his will, the body was placed in the sea "Where my soul shall forever defend my land against the Japanese". It is said that the Sok Gul Am (Stone Cave) was built to guard his tomb. The Sok Gul Am is a fine example of the culture of the Silla Dynasty. The 61 movements in this pattern symbolize the last two figures of 6612 AS when Moon Moo came to the throne.

So-San Tul (72 Movements)

So-San is the pseudonym of the great monk Choi Hyong Ung (1520 - 1604) during the Lae Dynasty. The 72 movements refer to his age when he organized a corps of monk soldiers with the assistance of his pupil Sa Myung Dang. The monk soldiers helped repulse the Japanese pirates who overran most of the Korean peninsula in 1592.

Se-Jong Tul (24 Movements)

Se-Jong is named after the greatest Korean King, Se-Jong, who invented the Korean alphabets in 1443, and was also a noted meteorologist. The diagram represents the king, while the 24 movements refer to the 24 letters of the Korean alphabet.

Tong-Il Tul (56 Movements)

Tong-Il denotes the resolution of the unification of Korea, which has been divided since 1945. The diagram symbolizes the homogenous race.

PLEASE NOTE THAT THE REST OF THIS DOCUMENT IS THERE TO HELP YOU ON YOUR TAE KWON DO JOURNEY AND ISN'T A REQUIREMENT FOR BLACK BELT QUESTIONS



TAE KWON-DO TERMINOLOGY

(IT IS **NOT** A REQUIREMENT THAT THIS IS LEARNT FOR GRADINGS)

TAE KWON-DO TERMINOLOGY IS BASED ON THE KOREAN LANGUAGE. ALTHOUGH SOME WORDS WERE DEVELOPED SPECIFICALLY FOR TAE KWON-DO, AND DO NOT OTHERWISE APPEAR IN THE KOREAN VOCABULARY.

GENERAL KOREAN TERMS

<u>ENGLISH</u>	<u>KOREAN</u>
TRAINING HALL	DOJANG
TRAINING SUIT	DOBOK
INSTRUCTOR	SABUM
BELT	TI
STUDENT	JEJA

COMMANDS

ATTENTION	CHARYOT
BOW	KYONG-YE
READY	CHUNBI
RETURN TO READY STANCE	BARROL

COUNTING

ONE	HANNA
TWO	DOOL
THREE	SETH
FOUR	NETH
FIVE	DASAUL
SIX	YOSAUL
SEVEN	ILGOP
EIGHT	YODOLL
NINE	AHOP
TEN	YOLL

HAND PARTS

<u>ENGLISH</u>	<u>KOREAN</u>
FORE FIST	AP JOOMUK
BACK FIST	DUNG JOOMUK
SIDE FIST	YOP JOOMUK
KNUCKLE FIST	SONGARAK JOOMUK
KNIFE HAND	SONKAL
REVERSE KNIFE HAND	SONKAL DUNG
ARC HAND	BANDALSON
BACK HAND	SONDUNG
FINGERTIP	SONKUT
FINGERBELLY	SONGARAK BADAQ
PALM	SONBADAQ



ELBOW
FOREARM

PALKUP
PALMOK

(Thumb side: AN. little finger side: BAKAT)

FOOT PARTS

BALL OF FOOT
FOOTSWORD (edge of foot)
HEEL
KNEE

APKUMCHI
BALKAL
DWITCHOOK
MOORUP

SPARRING (MATSOKI)

3 STEP
2 STEP
1 STEP
SEMI-FREE
FREE
FOOT
RELEASE FROM GRAB

SAMBO MATSOKI
IBO MATSOKI
ILBO MATSOKI
BAN JAYOO MATSOKI
JAYOO MATSOKI
JOKGI MATSOKI
JAPYO SUL TAE

SECTION (DUNGBOON)

HIGH
MIDDLE
LOW
FRONT
SIDE
BACK
FLYING

NOPUNDE
KAUNDE
NAJUNDE
AP
YOP
DWIT
TWIMYO

STANCE (SOGI)

PARALLEL
WALKING
PARALLEL READY
L
X
ONE LEG
BENDING A & B
VERTICAL
DIAGONAL
FIXED
REAR FOOT
LOW
CLOSED

NARANI
GUNNUN
NARANI CHUMBI
NIUNJA
KYOCHA
WAEBEL
GUBURYO
SOOJIK
SASUN
GOJUNG
DWIT BAL
NACHUO
MOA



PUNCHING (JIRUGI)

OBVERSE
REVERSE
SIDE
VERTICAL
UPWARD
UPSET
DOWNWARD
CRESENT
U SHAPE
TURNING
HORIZONTAL
KNUCKLE FIST
FOUR DIRECTIONAL PUNCHING

BARO
BANDAE
YOP
SEWO
OLLYO
DWIJIBO
NAERYO
BANDAL
DIGUTJA
DOLLYO
SOOPYONG
SONGARAK JOOMUK
SARJO JIRUGI

ELBOW (PALKUP)

BACK
SIDE
DOUBLE SIDE
STRAIGHT
UPPER
FRONT
HIGH

DWIT
YOP
JAU
SUN
WI
AP
NOPUN

BLOCKING (MAKGI)

HIGH
MIDDLE
LOW
INWARD
OUTWARD
OUTSIDE
INSIDE
RISING
DOUBLE FOREARM
X FIST
X KNIFE HAND
UPWARD
DOWNWARD
PRESSING
HOOKING
WEDGING
PUSHING
SCOOPING
GUARDING
TWIN FOREARM

NOPUNDE
KAUNDE
NAJUNDE
ANURO
BAKURO
BAKAT
AN
CHOOKYO
DOO PALMOK
GYOCHA JOOMUK
GYOCHA SONKAL
OLLYO
NAERYO
NOOLLO
GOLCHO
HECHYO
MIRO
DURO
DAEBI
SANG PALMOK

CIRCULAR
NINE SHAPE
DOUBLE ARC HAND
U SHAPE
WAIST

DOLLI MYO
GUTJA
DOOBANDALSON
MONG DUNG-I
HORI

KICK (CHAGI)

FOOT TEHCS.
TURNING
SIDE
FRONT
DOWNWARD
REVERSE TURNING
REVERSE HOOKING
TWISTING
VERTICAL
FLYING
FLYING SIDE PIERCING
FLYING FRONT
FLYING TURNING
FLYING REVERSE TURNING
FLYING HIGH
FLYING TWISTING
CRESENT
CHECKING
HOOKING
SWEEPING
SIDE PIERCING
SIDE THRUSTING
BACK PIERCING
FRONT SNAP
STAMPING

JOK GI
DOLLYO
YOP
AP
NAERYO
BANDAE DOLLYO
BANDAE DOLLYO GORO
BITURO
SEWO
TWIMYO
TWIMYO YOPCHA JIRUGI
TWIMYO AP
TWIMYO DOLLYO
TWIMYO BANDAE DOLLYO
TWIMYO NOPI
TWIMYO BITURO
BANDAL
CHA MUM
GOLCHA
GORO
YOP CHA JIRUGI
YOP CHA TULGI
DWICHA JIRUGI
APCHA BUSIGI
CHA BAGGI



Hwa Rang warrior



ADDITIONAL TWO STEP SPARRING (IBO MATSOKI)

Pre-arranged sparring is practiced to develop - DISTANCE, FOCUS & TIMING against an actual partner.

1. Face partner.
2. Mark your distance.
3. On command 'JUNBI' person attacking takes RIGHT LEG back into ' L ' stance, blocking Left Forearm Guarding Block with a shout (ki/ha).
Defender moves to Parallel Ready Stance. Shout (ki/ha) to indicate when ready to begin.

No. 5.

ATTACK..... Right back kick - Left hand palm strike to the nose.

DEFENCE..... Right leg back in L stance, knife hand waist block with left hand - Step back in Left L stance, Right hand outer forearm inward middle block.

COUNTER..... Slide right foot into walking stance, left hand reverse knifehand strike to the solar plexus.

No.6.

ATTACK..... Right high turning kick - Step forward into a walking stance, arc-hand throat grab.

DEFENCE..... Left leg back in sitting stance, twin straight forearm block - Step back in right L stance, palm hooking block with left hand.

COUNTER..... Left side kick, pulling on opponents arm.

No. 7.

ATTACK..... : Side fist strike with right hand in fixed stance - Middle section reverse turning kick with left leg.

DEFENCE..... Left leg back into L stance, twin forearm block. - Step into right L stance knife-hand guarding block (evading kick).

COUNTER..... High reverse turning kick with Right leg.

No.8.

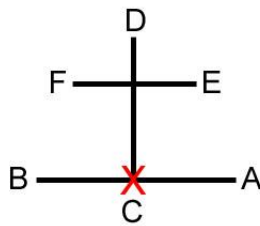
ATTACK..... Right middle side kick - Spinning knife-hand strike in right L stance

DEFENCE..... Right leg back, Inward moving inner forearm waist block with Left hand, - Cross the left leg over the right, step back in right L stance, knife-hand guarding block

COUNTER..... Left X stance, back fist strike.

NOTE. On the counter attacks, you should SHOUT (KI/HA)

1st DEGREE BLACK BELT PATTERNS



KWANG-GAE

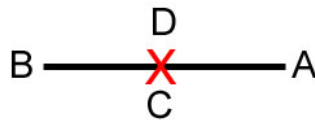
Start position: parallel stance with a heaven hand

1. Bring the left foot to the right foot, forming a close ready stance B, at the same time bringing both hands in a circular motion.
2. Move the left foot to D, forming a left walking stance, at the same time executing an upset punch with the right fist. Perform in a slow motion.
3. Move the right foot to D, forming a right walking stance while executing an upset punch with the left fist. Perform in a slow motion.
4. Move the left foot to the side front of the right foot and then move the right foot to D, forming a right walking stance, at the same time executing a high hooking block with a right palm. Perform in a double stepping motion.
5. Move the right foot to C in a sliding motion, forming a right L-stance while executing a low guarding block with a knifehand.
6. Move the right foot to the side front of the left foot and then move the left foot to D, forming a left walking stance, at the same time executing a high hooking block with a left palm. Perform in a double stepping motion.
7. Move the left foot to C in a sliding motion, forming a left L-stance while executing a low guarding block with a knifehand.
8. Move the left foot to D forming a right rear foot stance while executing a high guarding block with a knifehand.
9. Move the right foot to D forming a left rear foot stance, at the same time executing a high guarding block with a knifehand.
10. Move the left foot to D and then turn counter-clockwise, pivoting with the left foot to form a left walking stance toward C, at the same time executing an upward block with a right palm. Perform in a slow motion.
11. Move the right foot to C, forming a right walking stance while executing an upward block with a left palm. Perform in a slow motion.
12. Bring both backhands in front of the abdomen in a circular motion, hitting the left palm with the right knifehand, at the same time bringing the left foot to the right foot to form a close stance toward C.
13. Execute a pressing kick to E with the left foot keeping the position of hands as they were in 12.
14. Execute a middle side piercing kick to E with the left foot, Perform 13 and 14 in a consecutive kick.



15. Lower the left foot to E forming a right L-stance, at the same time executing a high inward strike with a right knifehand and bring a left side fist in front of the right shoulder.
16. Execute a downward strike to E with a left side fist while forming a close stance toward C, pulling the left foot to the right foot.
17. Execute a pressing kick to F with the right foot keeping the position of hands as they were in 16.
18. Execute a middle side piercing kick to F with the right foot; perform 17 and 18 in a consecutive kick.
19. Lower the right foot to F, forming a left L-stance while executing a high inward strike with a left knifehand and bringing a right side fist in front of the left shoulders.
20. Execute a downward strike to F with a right side fist while forming a close stance towards C, pulling the right foot to the left foot.
21. Move the left foot to C forming a left low stance, at the same time executing a pressing block with a right palm. Perform in a slow motion.
22. Move the right foot to C forming a right low stance, at the same time executing a pressing block with a left palm. Perform in a slow motion.
23. Move the right foot to D in a stamping motion to form a sitting stance toward F while executing a high side strike with a right back fist.
24. Execute a middle block with a right double forearm while forming a right walking stance toward D, pivoting with the left foot.
25. Execute a low block with the left forearm while shifting to C, maintaining a right walking stance, keeping the position of the right hand as it was in 24.
26. Execute a high thrust to D with a right flat fingertip while forming a right low stance, slipping the right foot, Perform in a slow motion.
27. Move the left foot on line CD in a stamping motion to form a sitting stance toward F, while executing a high side strike with a left back fist.
28. Execute a middle block with a left double forearm while forming a left walking stance toward C, pivoting with the left foot.
29. Execute a low block with the right forearm while shifting to D, maintaining a left walking stance, keeping the position of the left hand as it was in 28.
30. Execute a high thrust to C with a left flat fingertip while forming a left low stance, slipping the left foot. Perform in a slow motion.
31. Move the right foot to C in a stamping motion, forming a right walking stance while executing a high vertical punch with a twin fist.
32. Move the left foot to A in a stamping motion, forming a left walking stance while executing an upset punch with a twin fist.
33. Execute a middle front snap kick to A with the right foot, keeping the position of the hands as they were in 32.
34. Lower the right foot to the left foot and then move the left foot to A to form a left L-stance toward B, at the same time executing a middle guarding block with a knifehand.
35. Move the left foot to B forming a left walking stance while executing a high punch with the left fist.
36. Move the right foot to B in a stamping motion, forming a right walking stance while executing an upset punch with a twin fist.
37. Execute a middle front snap kick to B with the left foot, keeping the position of the hands as they were in 36.

38. Lower the left foot to the right foot and then move the right foot to B forming a right L-stance toward A, at the same time executing a middle guarding block with a knifehand.
 39. Move the right foot to A forming a right walking stance while executing a high punch with the right fist.
- End: Bring the left foot back to a ready stance.



PO-EUN

Start position: parallel stance with a heaven hand

1. Move the left foot to B, forming a right L-stance while executing a middle guarding block with the forearm.
2. Pull the right foot to the left knee joint to form a left one-leg stance, at the same time lifting both fists while turning the face toward A.
3. Execute a pressing kick to A with the right foot, keeping the position of the hands as they were in 12.
4. Lower the right foot to A to form a sitting stance, while executing a middle strike to A with a right knifehand.
5. Execute a turning punch with the left fist up to the right chest.
6. Execute a middle block with the right inner forearm, at the same time executing a pressing block with a left forefist.
7. Change the position of the hands.
8. Execute a middle wedging block with the inner forearm.
9. Thrust to C with the right back elbow, supporting the right forefist with the left palm keeping the face as it was in 8.
10. Execute a middle punch with the right fist, slipping the left palm up to the right elbow joint.
11. Thrust to C with the left back elbow, supporting the left forefist with the right palm keeping the face as it was in 10.
12. Execute a right horizontal punch.
13. Cross the left foot over the right foot forming a right X-stance, at the same time executing a low front block with the right outer forearm and bringing the left finger belly on the right under forearm.
14. Move the right foot to A, forming a left L-stance while executing a U-shape grasp.
15. Bring the left foot to the right foot forming a close stance towards D while thrusting to the sides with a double side elbow, turning the face toward B. Perform in a slow motion.
16. Move the left foot to B to form a sitting stance, while executing a high thrust toward C with a right back fist and a low block with the left forearm.



17. Cross the left foot over the right foot forming a left X-stance, while executing a low front block with the left outer forearm and bring the right finger belly to the left side fist.
18. Move the left foot to B to form a sitting stance, while executing a low guarding block to B with the reverse knifehand.
19. Execute a middle guarding block with the forearm while forming a left L-stance toward A, pivoting with the left foot.
20. Pull the left foot to the right knee joint to form a right one-leg stance, at the same time lifting both fists while turning the face toward B.
21. Execute a pressing kick to B with the left foot, keeping the position of the hands as they were in 20.

Perform 21 through 29 in a fast motion.

22. Lower the left foot to B to form a sitting stance, while executing a middle strike to B with a left knifehand.
23. Execute a turning punch with the right fist up to the left chest.
24. Execute a middle block with the left inner forearm, at the same time executing a pressing block with a right forefist.
25. Change the position of the hands.
26. Execute a middle wedging block with the inner forearm.
27. Thrust to C with the left back elbow, supporting the left forefist with the right palm, keeping the face as it was in 26.
28. Execute a middle punch with the left fist, slipping the right palm up to the left elbow joint.
29. Thrust to C with the right back elbow, supporting the right forefist with the left palm.
30. Execute a left horizontal punch.
31. Cross the right foot over the left foot forming a left X-stance, at the same time executing a low front block with the left outer forearm and bring the right finger belly on the left under forearm.
32. Move the left foot to B forming a right L-stance, at the same time executing a U-shape grasp.
33. Bring the right foot to the left foot forming a close stance toward D while thrusting to the sides with a double side elbow, turning the face toward A. Perform in a slow motion.
34. Move the right foot to A to form a sitting stance while executing a high strike to C with a left back fist and a low block with the right forearm.
35. Cross the left foot over the right foot forming a right X-stance, at the same time executing a low front block with the right outer forearm and bringing the left finger belly to the right side fist.
36. Move the right foot to A to form a sitting stance, while executing a low guarding block to A with a reverse knifehand.

End: Bring the left foot back to ready stance.



GE-BAEK

Start position: parallel ready stance

1. Move the right foot to C forming a right L-stance, while executing a middle side block with an X-knifehand.
 2. Execute a low twisting kick to D with the right foot, keeping the position of the hands as they were in 1.
 3. Lower the right foot to D forming a right walking stance, at the same time executing a middle punch with the right fist. Perform in a fast motion.
 4. Execute a middle punch with the left fist. Perform in a fast motion.
 5. Move the right foot to C forming a left walking stance, at the same time executing a rising block with the left forearm.
 6. Execute a low block with the left forearm.
- Perform 5 and 6 in a continuous motion.
7. Execute a high block toward AD with a double arc-hand while looking through it.
 8. Turn the face toward D while forming a right bending ready stance A.
 9. Lower the left foot to AD to form a sitting stance toward AC, at the same time executing a scooping block with a left palm.
 10. Execute a middle punch with the right fist.
- Perform 9 and 10 in a continuous motion.
11. Execute a front strike with a left back fist.
 12. Move the right foot on line AB and then move the left foot to C forming a right L-stance, at the same time executing a middle guarding block with a knifehand.
 13. Execute a low front snap kick with the left foot, keeping the position of the hands as they were in 12.
 14. Lower the left foot to C forming a left low stance, at the same time executing a high thrust with a left flat fingertip.
 15. Execute a high thrust with a right flat fingertip.
 16. Execute a middle side piercing kick to C with the right foot while pulling both hands in the opposite direction.
 17. Lower the right foot to C forming a right L-stance toward D, at the same time executing a middle guarding block with the forearm.
 18. Move the right foot to D turning counter-clockwise to form a right L-stance toward C, at the same time executing a middle guarding block with the forearm.
 19. Move the left foot to D turning counter-clockwise to form a right L-stance toward D, at the same time executing a middle guarding block with a knifehand.
 20. Move the left foot on line CD to form a sitting stance toward A, while executing a right 9-shape block.



21. Move the right foot to D turning counter-clockwise to form a left walking stance toward C, while executing a low block with a left knifehand.
 22. Execute a middle turning kick with the right foot and then lower it to C. Perform in a fast motion.
 23. Execute a flying side piercing kick to C with the right foot. Perform in a fast motion.
 24. Land to C, forming a right walking stance while executing a high vertical punch with a twin fist.
 25. Execute a high block toward AC with a double arc-hand while looking through it.
 26. Execute an upset punch with the left fist.
 27. Move the right foot on line CD forming a left walking stance toward D while striking the left palm with the right front elbow.
 28. Jump to D forming a right X-stance, at the same time executing a high block to D with a right double forearm.
 29. Move the left foot to BC to form a sitting stance, toward BD, at the same time executing a scooping block with a right palm.
 30. Execute a middle punch with the left fist.
- Perform 29 and 30 in a continuous motion.
31. Execute a front strike with a right back fist.
 32. Move the left foot to C forming a left walking stance while executing a high front strike with a right reverse knifehand.
 33. Move the left foot to A about half a foot, at the same time executing a middle turning kick with the right foot.
 34. Lower the right foot to C and then turn counter-clockwise to form a left walking stance toward D pivoting with the right foot, at the same time executing a high vertical punch with a twin fist.
 35. Execute a middle punch with a right middle knuckle fist, bringing the left side fist in front of the right shoulder while forming a right L-stance, pulling the left foot.
 36. Move the right foot to D to form a sitting stance toward B, at the same time executing a left 9-shape block.
 37. Execute a low guarding block to C with a reverse knifehand.
 38. Execute a low guarding block to D with a knifehand.
- Perform 37 and 38 in a continuous motion.
39. Move the left foot to D in a stamping motion to form a sitting stance toward A, while executing a W-shape block with the outer forearm.
 40. Move the left foot to C in a stamping motion to form a sitting stance toward B, while executing a W-shape block with the outer forearm.
 41. Move the right foot to C forming a right walking stance, at the same time executing a rising block with the right forearm.
 42. Execute a middle punch with the left fist.
 43. Move the right foot on line CD forming a right walking stance toward D, while executing a rising block with the left forearm.
 44. Execute a middle punch with the right fist.
- End: Bring the right foot back to a ready stance.



STANCES

STANCE	DETAILS
1. *Attention	Heels together
2. *Parallel Ready	Feet shoulders width apart and parallel
3. Closed Ready `A`	Feet together. Close right fist, place left palm over right fist. Hold 30cm from philtrum. Korean meaning for “yin and yang” is “um yang”.
4. Closed Ready `B`	Same as `A` but hold fist in line with knot of belt.
5. Closed Ready `C`	Feet same as `A` and `B`. Both hands open, place left hand over right with first finger in line with first knuckle line of right hand.
6. Closed Ready `D`	Feet are together with the arms straight pointing downwards. Both at a 45 degree angle. The hands are to form fists.
7. *Sitting Stance	Feet parallel, one and a half to two shoulders widths apart. Bend both knees equally. Back straight and head up. Weight distribution 50% on each leg.
8. *Walking Stance	Feet shoulders width apart, one and a half to two shoulders width in length. Front leg bent with knee directly above heel of foot. Back leg straight, foot at slight angle to line of stance. Back straight and head up. Weight distribution 50% on each leg.
9. *L Stance	Feet at a right angle, with the heels in line one and a half shoulders widths in length from the front toes to the outside of the back foot. Body faces same direction as back leg. Back straight and head up. Weight distribution 30% on front leg, 70% on the back.
10. Fixed Stance	Same as L-stance except half a foot longer and distributes 50% on each leg.



11. Bending Ready Stance It is classified into type A and B. When standing with a right foot executed a left forearm guarding block, it is called a right bending ready stance and vice-versa

TYPE A

It is principally used for a preparatory position of side piercing and side thrusting kicks.

TYPE B

It is a preparatory position of back piercing kick. The distance between the fists and thigh is about 25 centimetres. The elbow should be bent 30 degrees. See pictures on the next page/

12. X Stance Both knees bent. Back straight. If striking to the left, the Left foot should be in front and flat on the floor, the right should be resting on the ball of the foot. Change when striking to the right.
13. Rear Foot Stance Feet at a right angle, shoulder widths in length with both knees bent. Weight distribution 100% on back leg, which should be flat on the floor while the front should be resting on the ball of the foot. Body should be facing same direction as back foot.
14. Vertical Stance Feet at a right angle and flat on the floor, heels in line half a shoulder width in length. Weight distribution 50% on each leg. Both knees are straight with the body side facing.
15. *Fighting Stance This is a relatively new stance, which is very important as most sparring and fighting takes place when in this stance. It is similar to an L stance, the main differences being the back leg is pointed slightly forward giving better mobility for quicker movements, the body is half facing the opponent to present a more elusive target, and a strong hand position is maintained for defence, it is also a more relaxed stance.
16. One-Leg Stance Though this stance is primarily used for balance exercise, it is occasionally utilised in attack and defence techniques. Stretch the stationary leg and bring the other reverse foot sword on the knee joint or instep to the hollow. When standing with the right foot, it is called a right one-leg stance and vice-versa. It can either be full facing or side facing, both in attack and defence.

17. Diagonal Stance

This is very useful for shifting into a walking stance without relocating the foot. The principle for a sitting stance is directly applied except that the heel of the front foot is placed on the same line with the toes of the rear foot. It is used for attacking and defending against the front or rear. When the right foot is advanced, the stance is called a right diagonal stance and vice-versa. It can be either full facing or side facing both in attack and defence.

18. Close Stance

Stand with the feet together. It can be either full facing or side facing.

19. Heaven Hand Stance

This technique is performed usually in a parallel stance. Using both the right and the left hands, you form a triangle using the thumbs and index fingers. This technique is performed above head section, with the arms bent inwards. The head should be tilted upwards looking through the centre of the triangle, see picture below. This ready position is to have been used to check the alignment of the sun before sending soldiers/troops into battle.

* These stances are the basic stances first learned by the beginner.

Parallel stance with a Heaven Hand



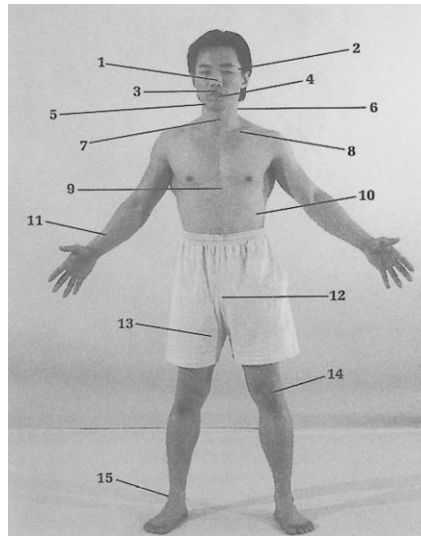
Right bending ready stance A



Right bending ready stance B



FRONT VITAL POINTS

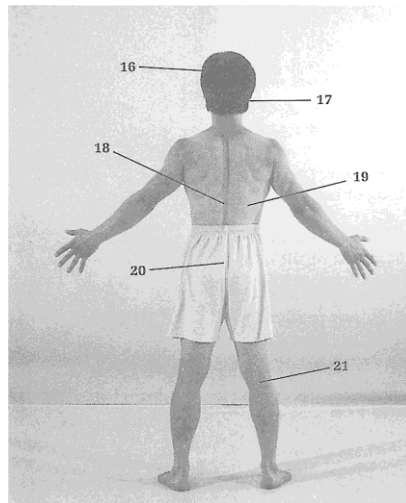


Strikes and kicks are, most often effective when delivered to the weakest points of an opponent's body. Below we have pinpointed specific areas of the human body that are most vulnerable to attack.

FRONT OF THE BODY

- 1) Bridge of nose: A strike to this area can result in broken bones and disorientation.
- 2) Temple: A strike to this area can result in disorientation or unconsciousness.
- 3) Septum: A strike to this area can result in extreme pain, bleeding and disorientation.
- 4) Front teeth: A strike to this area can result in broken bones and disorientation.
- 5) Side of Jaw: A strike to this area can result in broken bones.
- 6) Carotid artery: A strike to this area can result in unconsciousness.
- 7) Larynx: A strike to this area can result in broken bones, permanent damage to the voice or death.
- 8) Clavicle: A strike to this area can result in broken bones and disabling of the arm.
- 9) Solar plexus: A strike to this area can disrupt breathing or cause unconsciousness.
- 10) Floating ribs: A strike to this area can disrupt breathing and result in broken bones, internal injuries and death.
- 11) Radius bone: A strike to this area can result in numbness to the hand or broken bones.
- 12) Groin: A strike to this area can result in incapacitating pain, reproductive organ damage (in men) or unconsciousness (in men).
- 13) Inner thigh: A strike to this area can result in muscle cramping or numbing of the lower leg.
- 14) Knee: A strike to this area can result in dislocated bones.
- 15) Instep: A strike to this area can result in dislocated bones.

BACK VITAL POINTS



REAR OF BODY

- 16) Base of skull: A strike to this area can result in disorientation or unconsciousness.
- 17) Fourth cervical vertebra: A strike to this area can result in broken bones, paralysis or death.
- 18) Third lumbar vertebra: A strike to this area can result in broken bones and paralysis.
- 19) Kidney: A strike to this area can result in internal injuries and death.
- 20) Coccyx: A strike to this area can result in broken bones and numbness to the legs.
- 21) Back of knee: A strike to this area can bend the knee result in dislocated bones.

TYPES OF STRETCHING

Just as there are different types of flexibility, there are also different types of stretching. Stretches are either dynamic (involving motion) or static (motionless). Dynamic stretches affect dynamic flexibility and static stretches affect static flexibility (and dynamic flexibility to some degree).

The different types of stretching are:

- Ballistic
- Dynamic
- Active
- Passive (or relaxed)
- Static
- Isometric
- PNF



Ballistic Stretching

Ballistic stretching uses the momentum of a moving body or a limb in an attempt to force it beyond its normal range of motion. This is stretching, or "warming up", by bouncing into (or out of) a stretched position, using the stretched muscles as a spring which pulls you out of the stretched position. (E.g. bouncing down repeatedly to touch your toes.) This type of stretching is not considered useful and can lead to injury. It does not allow your muscles to adjust to, and relax in, the stretched position. It may instead cause them to tighten up by repeatedly activating the stretch reflex.

Dynamic stretching

Dynamic stretching "involves moving parts of your body and gradually increasing reach, speed of movement, or both." Do not confuse dynamic stretching with ballistic stretching! Dynamic stretching consists of controlled leg and arm swings that take you (gently!) to the limits of your range of motion. Ballistic stretches involve trying to force a part of the body *beyond* its range of motion. In dynamic stretches, there are no bounces or "jerky" movements. An example of dynamic stretching would be slow, controlled leg swings, arm swings, or torso twists.

Dynamic stretching improves dynamic flexibility and is quite useful as part of your warm-up for an active or aerobic workout (such as a martial-arts class). See section Warming Up.

Dynamic stretching exercises should be performed in sets of 8-12 repetitions:

Perform your exercises (leg raises, arm swings) in sets of eight to twelve repetitions. If after a few sets you feel tired -- stop. Tired muscles are less elastic, which causes a decrease in the amplitude of your movements. Do only the number of repetitions that you can do without decreasing your range of motion. More repetitions will only set the nervous regulation of the muscles' length at the level of these less than best repetitions and may cause you to lose some of your flexibility. What you repeat more times or with a greater effort will leave a deeper trace in your [kinesthetic] memory! After reaching the maximal range of motion in a joint in any direction of movement, you should not do many more repetitions of this movement in a given workout. Even if you can maintain a maximal range of motion over many repetitions, you will set an unnecessarily solid memory of the range of these movements. You will then have to overcome these memories in order to make further progress.

Active stretching

Active stretching is also referred to as static-active stretching. An active stretch is one where you assume a position and then hold it there with no assistance other than using the strength of your agonist muscles (see section Cooperating Muscle Groups). For example, bringing your leg up high and then holding it there without anything (other than your leg muscles themselves) to keep the leg in that extended position. The tension of the agonists in an active stretch helps to relax the muscles being stretched (the antagonists) by reciprocal inhibition.

Active stretching increases active flexibility and strengthens the antagonistic muscles. Active stretches are usually quite difficult to hold and maintain for more than 10 seconds and rarely need to be held any longer than 15 seconds.

Many of the movements (or stretches) found in various forms of yoga are active stretches.



Passive stretching

Passive stretching is also referred to as relaxed stretching, and as static-passive stretching. A passive stretch is one where you assume a position and hold it with some other part of your body, or with the assistance of a partner or some other apparatus. For example, bringing your leg up high and then holding it there with your hand. The splits are an example of a passive stretch (in this case the floor is the "apparatus" that you use to maintain your extended position).

Slow, relaxed stretching is useful in relieving spasms in muscles that are healing after an injury (obviously, you should check with your doctor first to see if it is okay to attempt to stretch the injured muscles).

Relaxed stretching is also very good for "cooling down" after a workout and helps reduce post-workout muscle fatigue, and soreness.

Static stretching

Many people use the term "passive stretching" and "static stretching" interchangeably. However, there are a number of people who make a distinction between the two.

Static stretching involves holding a position. That is, you stretch to the farthest point and hold the stretch.

Passive stretching is a technique in which you are relaxed and make no contribution to the range of motion. Instead, an external force is created by an outside agent, either manually or mechanically.

Notice that the definition of passive stretching given in the previous section encompasses *both* of the above definitions. Throughout this document, when the term *static stretching* or *passive stretching* is used, its intended meaning is the definition of passive stretching as described in the previous section. You should be aware of these alternative meanings, however, when looking at other references on stretching.

Isometric stretching

Isometric stretching is a type of static stretching (meaning it does not use motion) which involves the resistance of muscle groups through isometric contractions (tensing) of the stretched muscles. The use of isometric stretching is one of the fastest ways to develop increased static-passive flexibility and is much more effective than either passive stretching or active stretching alone. Isometric stretches also help to develop strength in the "tensed" muscles (which helps to develop static-active flexibility), and seems to decrease the amount of pain usually associated with stretching.

The most common ways to provide the needed resistance for an isometric stretch are to apply resistance manually to one's own limbs, to have a partner apply the resistance, or to use an apparatus such as a wall (or the floor) to provide resistance.

An example of manual resistance would be holding onto the ball of your foot to keep it from flexing while you are using the muscles of your calf to try and straighten your instep so that the toes are pointed.

An example of using a partner to provide resistance would be having a partner hold your leg up high (and keep it there) while you attempt to force your leg back down to the ground.

An example of using the wall to provide resistance would be the well known "push-the-wall" calf-stretch where you are actively attempting to move the wall (even though you know you can't).

Isometric stretching is *not* recommended for children and adolescents whose bones are still growing. These people are usually already flexible enough that the strong stretches produced by the isometric contraction has a much higher risk of damaging tendons and connective tissue. It's recommended that preceding any isometric stretch of a muscle with dynamic strength training for the muscle to be stretched. A full session of isometric stretching puts a lot of demands on the muscles being stretched and should not be performed more than once per day for a given group of muscles (ideally, no more than once every 36 hours).

The proper way to perform an isometric stretch is as follows:

1. Assume the position of a passive stretch for the desired muscle.
2. Next, tense the stretched muscle for 7-15 seconds (resisting against some force that will not move, like the floor or a partner).
3. Finally, relax the muscle for at least 20 seconds.

Some people seem to recommend holding the isometric contraction for longer than 15 seconds, research has shown that this is not necessary. So you might as well make your stretching routine less time consuming.

How Isometric Stretching Works

Recall from section How Muscles Contract that there is no such thing as a partially contracted muscle fibre: when a muscle is contracted, some of the fibres contract and some remain at rest (more fibres are recruited as the load on the muscle increases). Similarly, when a muscle is stretched, some of the fibres are elongated and some remain at rest. During an isometric contraction, some of the resting fibres are being pulled upon from both ends by the muscles that are contracting. The result is that some of those resting fibres stretch!

Normally, the handfuls of fibres that stretch during an isometric contraction are not very significant. The true effectiveness of the isometric contraction occurs when a muscle that is already in a stretched position is subjected to an isometric contraction. In this case, some of the muscle fibres are already stretched before the contraction, and, if held long enough, the initial passive stretch overcomes the stretch reflex and triggers the lengthening reaction, inhibiting the stretched fibres from contracting. At this point :

When you isometrically contracted, some of the resting fibers would contract, many of the resting fibers would stretch, and many of the already stretched fibers, which are being prevented from contracting by the inverse myotatic reflex [the lengthening reaction], would stretch even more. When the isometric contraction was relaxed and the contracting fibers returned to their resting length, the stretched fibers would retain their ability to stretch beyond their normal limit. ... the whole muscle would be able to stretch beyond its initial maximum, and you would have increased flexibility ...

The reason that the stretched fibres develop and retain the ability to stretch beyond their normal limit during an isometric stretch has to do with the muscle spindles. The signal which tells the muscle to contract voluntarily, also tells the muscle spindle's (intrafusal) muscle fibres to shorten, increasing sensitivity of the stretch reflex. This mechanism normally maintains the sensitivity of the muscle spindle as the muscle shortens during contraction.



This allows the muscle spindles to habituate (become accustomed) to an even further-lengthened position.

PNF stretching

PNF stretching is currently the fastest and most effective way known to increase static-passive flexibility. PNF is an acronym for *proprioceptive neuromuscular facilitation*. It is not really a type of stretching but is a technique of combining passive stretching and isometric stretching in order to achieve maximum static flexibility (see section Passive Stretching, and see section Isometric Stretching). Actually, the term PNF stretching is itself a misnomer. PNF was initially developed as a method of rehabilitating stroke victims. PNF refers to any of several *post-isometric relaxation* stretching techniques in which a muscle group is passively stretched, then contracts isometrically against resistance while in the stretched position, and then is passively stretched again through the resulting increased range of motion. PNF stretching usually employs the use of a partner to provide resistance against the isometric contraction and then later to passively take the joint through its increased range of motion. It may be performed, however, without a partner, although it is usually more effective with a partner's assistance.

Most PNF stretching techniques employ *isometric agonist contraction/relaxation* where the stretched muscles are contracted isometrically and then relaxed. Some PNF techniques also employ *isometric antagonist contraction* where the antagonists of the stretched muscles are contracted. In all cases, it is important to note that the stretched muscle should be rested (and relaxed) for at least 20 seconds before performing another PNF technique. The most common PNF stretching techniques are:

Hold-relax

This technique is also called the *contract-relax*. After assuming an initial passive stretch, the muscle being stretched is isometrically contracted for 7-15 seconds, after which the muscle is briefly relaxed for 2-3 seconds, and then immediately subjected to a passive stretch which stretches the muscle even further than the initial passive stretch. This final passive stretch is held for 10-15 seconds. The muscle is then relaxed for 20 seconds before performing another PNF technique.

Hold-relax-contract

This technique is also called the *contract-relax-contract*, and the *contract-relax-antagonist-contrast* (or *CRAC*). It involves performing two isometric contractions: first of the agonists, then, of the antagonists. The first part is similar to the hold-relax where, after assuming an initial passive stretch, the stretched muscle is isometrically contracted for 7-15 seconds. Then the muscle is relaxed while its antagonist immediately performs an isometric contraction that is held for 7-15 seconds. The muscles are then relaxed for 20 seconds before performing another PNF technique.

Hold-relax-swing

This technique (and a similar technique called the *hold-relax-bounce*) actually involves the use of dynamic or ballistic stretches in conjunction with static and isometric stretches. It is **very** risky, and is successfully used only by the most advanced of athletes and dancers that have managed to achieve a high level of control over their muscle stretch reflex. It is similar to the hold-relax technique except that a dynamic or ballistic stretch is employed in place of the final passive stretch.



Notice that in the hold-relax-contraction, there is no final passive stretch. It is replaced by the antagonist-contraction which serves to relax and further stretch the muscle that was subjected to the initial passive stretch. Because there is no final passive stretch, this PNF technique is considered one of the safest PNF techniques to perform (it is less likely to result in torn muscle tissue). Some people like to make the technique even more intense by adding the final passive stretch after the second isometric contraction. Although this can result in greater flexibility gains, it also increases the likelihood of injury.

Even more risky are dynamic and ballistic PNF stretching techniques like the hold-relax-swing, and the hold-relax-bounce. If you are not a professional athlete or dancer, you probably have no business attempting either of these techniques (the likelihood of injury is just too great). Even professionals should not attempt these techniques without the guidance of a professional coach or training advisor. These two techniques have the greatest potential for rapid flexibility gains, but only when performed by people who have a sufficiently high level of control of the stretch reflex in the muscles that are being stretched. Like isometric stretching, PNF stretching is also not recommended for children and people whose bones are still growing (for the same reasons -- see section Isometric Stretching). Also like isometric stretching, PNF stretching helps strengthen the muscles that are contracted and therefore is good for increasing active flexibility as well as passive flexibility. Furthermore, as with isometric stretching, PNF stretching is very strenuous and should be performed for a given muscle group no more than once per day (ideally, no more than once per 36 hour period).

The initial recommended procedure for PNF stretching is to perform the desired PNF technique 3-5 times for a given muscle group (resting 20 seconds between each repetition). However, *HFLTA* cites a 1987 study whose results suggest that performing 3-5 repetitions of a PNF technique for a given muscle group is not necessarily any more effective than performing the technique only once. As a result, in order to decrease the amount of time taken up by your stretching routine (without decreasing its effectiveness), *HFLTA* recommends performing only one PNF technique per muscle group stretched in a given stretching session.

How PNF Stretching Works

Remember that during an isometric stretch, when the muscle performing the isometric contraction is relaxed, it retains its ability to stretch beyond its initial maximum length. Well, PNF tries to take immediate advantage of this increased range of motion by immediately subjecting the contracted muscle to a passive stretch.

The isometric contraction of the stretched muscle accomplishes several things:

1. As explained in section How Isometric Stretching Works, it helps to train the stretch receptors of the muscle spindle to immediately accommodate a greater muscle length.
2. The intense muscle contraction, and the fact that it is maintained for a period of time, serves to fatigue many of the fast-twitch fibers of the contracting muscles. This makes it harder for the fatigued muscle fibers to contract in resistance to a subsequent stretch.
3. The tension generated by the contraction activates the golgi tendon organ, which inhibits contraction of the muscle via the lengthening reaction. Voluntary contraction during a stretch increases tension on the muscle, activating the golgi tendon organs more than the stretch alone. So, when the voluntary contraction is stopped, the muscle is even more inhibited from contracting against a subsequent stretch.



PNF stretching techniques take advantage of the sudden "vulnerability" of the muscle and its increased range of motion by using the period of time immediately following the isometric contraction to train the stretch receptors to get used to this new, increased, range of muscle length. This is what the final passive (or in some cases, dynamic) stretch accomplishes.

MUSCLE GROUPS

There are many different muscles in the human body, all with different purposes. The two forms of muscle fibres are Fast Twitch fibres, which are used for speed of movement, and Slow Twitch fibres, which are used for endurance. Examples are, in running for instance, sprinting/fast twitch, long distance/slow twitch.

The actual muscle tissue is made up of protein. Fats in the body, taken from the amount of calories in your diet, store the energy for the muscle to function. If the body stores more fat than the muscles need, then you will put on weight.

Muscles can never turn into fat, as muscle and fat tissue are completely different, this is a common myth.

A BASIC GUIDE TO MUSCLES USED IN TAE KWON DO

NECK

These muscles are used whenever you execute a spinning or turning kick. The head is a heavy weight, which should be the first part of your body to torque, which if used correctly, can generate the turning speed needed for these kicks.

MUSCLE NAMES:

Sternocleidomastoid: front of head. Runs from behind the ear to the centre of the collarbone.

Platysma: spreads from the chin to cover the whole collarbone.

Trapezius (traps): supports the head and neck from behind. Located on either side of the neck and attaches to the base of the skull, and are very large, extending half way down the back on either side of the body. Main muscles used in lifting the shoulders.

SHOULDERS

These muscles are used when executing techniques such as Knife Hand Attacks and Spinning Knife Hand Attacks etc.

MUSCLE NAMES:

Deltoids: covering the very top of the shoulders providing stability to the shoulders and upper portion of the arms and shoulder sockets.

UPPER ARMS

Two main muscles used for the contraction and extension of the arm i.e. contraction when executing the pulling back motion of the arm in a hooking punch/headlock, extension as in pushing out power needed when punching.

MUSCLE NAMES:

Biceps: the large muscle in the front of the arm (used mainly for contracting the arm)

Triceps: located on the back of the arm (used for the extension of the arm)



FOREARMS

Used for the contraction of the hands, forming tight fists and strong grips.

MUSCLE NAMES:

There are almost 24 muscles in the forearm, each one playing an important role in the workings of the lower arm, wrist and hand.

UPPER CHEST

Together with the arms, used to generate punching power and provide strength for any pulling motion of the arms towards the centre of the body i.e. Hook punch or bear hug. They also provide crucial protection to the upper body organs.

MUSCLE NAMES:

Pectoral group: supports and protects the body's important inner organs giving a shield against external forces.

ABDOMEN

This group of muscles provide the centre of strength for all of the twisting motions that make up the main source of power in spinning kicks. They also provide stability for the back.

MUSCLE NAMES:

Rectus abdominis: this group gives the washboard effect on the front of the abdomen.

External obliques: located on the lower sides by the waist.

Internal obliques: lower abdomen, either side of the navel. Note: It is mainly the oblique group, which generates the strength and speed for spinning kicks.

BACK

This group of muscles provides a good defence against back injuries while performing martial art movements.

MUSCLE NAMES:

Latissimus dorsi (lats): located on either side of the back, covering the rib cage like two wings. Used when the shoulders are moved backwards i.e. pulling or rowing action, or the upper body is turning side to side.

Lumber group: located in the lower back, which protects the kidneys, supports the spine, and helps generate power in touring the upper body for spinning kicks.

HIPS AND PELVIS

This group of muscles are used for a variety of kicks and movements with the legs.

MUSCLE NAMES:

Gluteus Maximus: the main muscle of a group of three very strong gluteus muscles found in the backside. It helps in distance jumping and extending of the legs.

Gluteus Medius: helps to extend the legs laterally to the sides such as in a turning kick or side kick.

Iliacus: attached to the inner walls of the pelvis, beneath the Gluteus Maximus. Helps the other groups above to pick up the knee-to-chest movement. It works in opposition to the Gluteus Maximus in lifting the leg.

Psoas group: (major & minor): support muscles connecting the top of the leg, through the pelvis and to the spine. They can give a feeling of tension in the legs when performing sit-ups.



LEGS

The leg muscles are very similar in construction to the arm muscles.

MUSCLE NAMES:

Tensor Fascia Latae: located to the outside of the pelvis, these muscles help to raise the legs laterally as well as providing stability.

Hamstrings:

This large group of muscles are located on the back of the upper legs, and are a muscle group made up of three different muscles:

1. Biceps Femoris: is the outside muscle of the group.
2. Semitendinosus: located to the inside of the leg.
3. Semimembranosus: located under the Semitendinosus. The Hamstring group is basically working towards the flexing in of the leg (i.e. Hooking Kick), with each muscle providing a little extra support for whichever side it is located on.

Quadriceps (Quads):

Located on the opposite side of the leg to the Hamstring group (front). A grouping of four muscles on the top of the leg used when extending the leg outwards and locking the kicking leg out as in the Front Kick and Turning Kick. This muscle group is made of four separate muscles:

1. Vastus Lateralis: located on the outside.
2. Vastus Medialis: located on the inside.
3. Vastus Intermedialis: located in the middle, underneath the other two.
4. Rectus Femoris: located above the Vastus Intermedialis.

Sartorius: This is the longest muscle in the body. It stretches all the way from the top of the hip, over the Quads, down to the inside of the knee. It provides increased control of the leg's lateral movements, coming largely into play during the inside crescent kicks.

Gastrocnemius (calf): located in the rear of the lower leg. Used mainly in the springing-off the balls of the feet. It is the first leg muscle to go into action when kicking, therefore being the first link to generating speed.

Arch Tendon: Although not a muscle, it is the primary force used in getting into the correct position for kicking, flexing for side kicks, pointing for turning kicks etc. As well as providing initial strength for the pushing off the feet in jumping kicks.



TYPES OF EXERCISE

There are two different types of exercise, Aerobic and Anaerobic. A brief description of both:

AEROBIC Means WITH OXYGEN

This form of exercise is performed over longer periods of continuous effort at a steady rate (over 30 minutes or more) where the muscles can use oxygen and burn fats to function.

EXAMPLES: Aerobic/boxercise/step, cycling, swimming, jogging, and any other exercise/sport that requires endurance. Benefits are endurance and improve efficiency of the heart, lungs and circulation.

ANAEROBIC Means WITHOUT OXYGEN

This form of exercise is performed over very short periods with maximum effort where the exercise is so intense that the muscles haven't got time to use the oxygen in the blood and body fats to function, therefore they use an alternative 'food' called carbohydrates.

Anaerobic exercise cannot be performed for long, as the muscles grow tired very quickly. Aerobic exercise, if performed until fatigue sets in, ultimately becomes Anaerobic.

EXAMPLES: Short sprints, Weight Lifting, and any exercise/sport that requires short, fast, high impact movements at maximum effort.

Benefits are increased speed and explosive power, and to enable the muscle to get used to working when tired.

In short, if you want to exercise to lose weight and increase your cardio vascular system (heart & lungs) and endurance, train using AEROBIC EXERCISES. If you require repeated 'maximum effort-stop-maximum effort' style performance using speed and power, train using ANAEROBIC EXERCISES.

Tae kwon do can be both Aerobic (patterns, line work, steady sparring) and Anaerobic (fast kicking, fast hand techniques, tournament sparring, high impact bag work using kicks and/or hands).



STUDENT NOTES