

# Understanding the Hips and the Waist

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**Understanding the Hips and the Waist**





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# UNDERSTANDING THE HIPS AND THE WAIST

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BY SAM MASICH

## INTRODUCTION

**T**houghtful investigation of the practices and writings of the past masters of tàijíquán (太極拳) reveals that success in the art is contingent on correct understanding and employment of the hips and the waist by the taijiquan practitioner. Respect for their efforts demands a thorough exploration of the subject. This essay addresses ways in which the hips and the waist have been traditionally understood and provides contemporary taijiquan practitioners with a practicable understanding of the subject.

Understanding the hips and the waist is one of most difficult yet most rewarding challenges encountered within taijiquan training. Much of what distinguishes taijiquan from other martial and self-cultivation arts stems from the skillful harmonization of the hips with the waist in order to support ‘deep sticking’ (shēnjìn zhānnián 深勁粘黏), a term that summarizes four interrelated strategies—‘sticking,’ ‘adhering,’ ‘connecting,’ and ‘following’ (zhānnián lián suí 粘黏連隨)—described in early taijiquan literature. The deep-sticking approach to self-defence involves making and maintaining clear connection with a partner or opponent

and moving oneself via ‘perceptual movement’ (zhījué yùndòng 知覺運動). The deep-sticking strategy employed in taijiquan is supported by the ‘thirteen-powers’ theory (shí sānshì 十三勢), which emphasizes the interplay between ‘square’ (zhèng 正) and ‘corner’ (yú 隅) energies. The interaction of square and corner energies is contingent on correct functioning of the ‘five stance-phases’ (wǔbù 五步); mastering the wubu, in turn, requires mastery of the hip-and-waist complex. When tension dominates muscles of the hip-and-waist region, smoothness and stability are undermined by involuntary forward and backward leaning, uncontrolled changes in postural height, and erratic changes of speed; these effects are counterproductive to the deep-sticking approach. If the intrinsic and dynamic relationship between hips and waist is optimized, the mobility, health, power, and self-cultivation benefits of taijiquan can be maximized.

Following this introduction are a brief description of the ‘hip-track,’ an examination of some factors that make it difficult to understand the hips and the waist, and an explanation of the concept of ‘relative and carried



movement.’ The hips and the waist are then explored in five parts according to five themes that are relevant to taijiquan practitioners.

In ‘Part One: The Hips,’ the hip region and the correctly-aligned hip-track are described. In ‘Part Two: The Waist,’ the waist, waist movement, and functions of the waist are explored. ‘Part Three: Hip-and-waist errors’ delves into the ‘four errors’ (sibing 四病) found in classical taijiquan literature. Here, the ‘obstructive behaviours’ that bring about the four errors are addressed, as well as causes of the obstructive behaviours.

### INTRODUCING THE ‘HIP-TRACK’

Throughout this essay the term ‘hip-track’ is used. The hip-track is the direct and linear path of movement between the two sides of a taijiquan stance that has both feet on the ground. The hip-track appears when weight is transferred from one leg to another. A correctly-aligned hip-track creates a centre around which all other movement can comfortably orbit, facilitating stance stability, stance mobility, and transference of power from the lower body to the upper. Correct hip-track alignment provides the taijiquan practitioner with a secure reference for the position of the pelvis in relation to the rest of the body.

### DIFFICULTIES IN UNDERSTANDING THE HIPS AND THE WAIST

#### Sensory disparity

The parts of the body known as ‘the hips’ and ‘the waist’ are difficult for practitioners of taijiquan to discern and to direct. The difficulty has to do with the relatively small space the hip-and-waist region occupies on the somatosensory and motor cortices (as represented below by the sensory and the motor ‘homunculus’. See illustration 1).

Notice, for example, the eyes and lips, which occupy a small area physically, are greatly more sensitive—and consequently easier to identify and operate—than the comparatively large quadriceps and gluteus muscles. There is an inversely proportionate relationship between the hip and waist region’s large volume of body tissue and the region’s comparatively small nerve supply. This disparity accounts for the limited sensory awareness of the hip-and-waist region. Special training methods, such as those



The homunculus is a curiously distorted image of the human body scaled to illustrate the relative nerve supply to different body regions. Artwork by Karl Masich

provided by traditional taijiquan curricula, are useful in overcoming this inherent sensory deficit.

#### Cultural bias

Cultural and psychological factors also play a role in the difficulty encountered by taijiquan pupils trying to meet the challenges that arise when studying the hips and the waist. Sport-oriented physical-education programs, which emphasize competitive achievement over somatic exploration, do little to prepare participants for a deeply mindful study of these areas of the body. Conventional social mores have regarded the hips and the waist area as illicit—even forbidden—regions of the body, strongly inhibiting the conscious experiencing of these nether parts. In psychology and myth, this zone is thought to represent the physical repository of unconscious and repressed emo-



tional content that could redirect or sabotage one's life if unleashed.

### Language constraints

A further problem faced by players seeking an understanding of the hips and the waist resides in the language used by writers of the mid-nineteenth century *Taijiquan Classics* (*Tàijíquán Jīng* 太極拳經), the oldest documents to lay out requirements for correct taijiquan practice. When referring to this region of the body, they do not speak of the 'hips' specifically but rather describe the 'waist and leg' (yāotǔ 腰腿) as a pair. This phrasing can be explained by the conservatism that was characteristic of late Qing dynasty writings, which avoided the use of 'vulgar' references to certain parts of the human body. Cultural taboos have existed around explicit language in reference to parts of the body when societies deemed such utterances indecent. In Chinese language, the general word for 'hip' is tún bù (臀部)—literally, 'buttocks section,' a generalization implying, as in English 'the bottom,' the fleshy outer side and underside of the hip surface.

Early writings on the subject of taijiquan possess a dignified tone that borders on the genteel, and they speak in a poetically didactic voice that lends itself to communicating principles rather than specifics about which parts of the body should be involved in actions. This is especially related to body parts directly having to with or suggestive of sexuality. Although descriptions of the feet, the legs, and the waist are found in them, it is not until literature of the post-classics generations, eighty to a hundred years later, that direct written instructions are found on the inguinal fold (kuà 胯), the buttocks (pìgǔ 屁股), the coccyx (wěilú 尾闾), and the crotch (dāng 檔).

### 'RELATIVE' AND 'CARRIED' MOVEMENT

To mobilize body parts deliberately and in relation to one another demands an understanding of two distinct types of movement—'relative' and 'carried.' Much advice given on the subject of hip-and-waist coordination states that these two parts of the body must 'move together'—but this should not be interpreted to mean that they should move as a fused segment. Movement that is performed as if the

hips and the waist together form a single block does not allow clear articulation of these parts of the body and inevitably leads to a reliance on what are called the 'four errors.' These individual parts are able to move at the same time and yet maintain their autonomy—in fact, one must be able to articulate the hips and the waist independently in order to be able to coordinate them for the purpose of performing taijiquan correctly. Being able to distinguish 'relative movement' from 'carried movement' requires not only sufficient body awareness to control the parts of the body involved in the movement, but also a thorough understanding of the concepts of relative movement and carried movement.

### Relative movement

'Relative movement' describes the changing relationship between two body parts that results from the articulation within the joint between them. For example, when the elbow flexes or extends, the positions of the upper arm and the forearm change relative to one another. During walking, the positions of the lower leg and the upper leg change relative to one another as the knee flexes or extends. Relative movement can also be called 'direct movement' because it describes action that occurs in the joint immediately (directly) adjacent to the part being moved.

During lateral waist rotation, relative movement takes place in the narrow area between the ribcage and the pelvis, either of which can remain fixed while the other moves. In the case of waist rotation with the pelvis remaining fixed as the waist moves laterally ('relative' to the hips), the parts of the body above the waist—the ribcage, upper torso, neck and head, and shoulders and arms—are carried along with the waist in the direction of the rotation. In taijiquan, skillful relative-movement waist turning is used in defensive techniques that neutralize the force of an attack.

### Carried movement

'Carried movement' describes the relationship between body parts that move in space but whose position in relationship to one another remains static. Carried movement occurs as a result of relative movement that takes place



elsewhere. In the example of simple elbow flexion, the upper arm and the forearm change relative to one another and, at the same time, this action carries the hand and the fingers along with it. Carried movement also happens when one or more parts of the body are transported passively because of the complex actions of several body parts—for instance, during walking where the entire upper body, which includes the waist, is carried by the legs. The waist is also carried when the weight is shifted from one leg to another in a taijiquan stance. Carried movement can also be called ‘indirect movement’ because the carried element is not in and of itself acting but is being transported (indirectly) by direct-movement actions elsewhere.

### Relative and carried movement in harmony

Understanding how body parts move in relative ways or in carried ways makes possible a deeper analysis of all gestures in taijiquan. Ultimately, taijiquan players must endeavour to become conscious of and harmonize these two types of movement when practicing every aspect of the curriculum. The ‘relative movement’ and ‘carried movement’ concept is especially important if one is to understand the relationship between the hips and the waist in reference to the five stance-phases that lie at the heart of the thirteen-powers approach to martial-arts and self-cultivation training.

## PART ONE: THE HIPS

### 1. DESCRIBING THE HIPS

The hip joint is located at the top of each leg and is an articulation that connects the head of the upper femur—the ‘ball’—to the pelvic region at the acetabulum—the ‘hip socket.’ It is referred to anatomically as the acetabulofemoral joint. The ‘ball-and-socket’ structure of the hip joint makes possible a range of complex flexion/extension, abduction/adduction, and rotational actions that change the positional relationship between the thighs and torso. Examples of such movements related to taijiquan include weight shifting between the end positions of stances (when both feet are on the ground) and leg lifting actions such as stepping and kicking (when only one leg is on the ground).

To say that someone ‘moves from the hips’ is



Location of the Kua.

not an accurate statement, since the hip joints themselves have no internal mechanism by which to move. Rather, the hip joints are caused to move by a sequence of coordinated actions initiated by muscles in the hip-and-thigh area. The muscles of this region can be divided into four basic groups according to their function and position in relation to the hip joint: the gluteals (buttocks) used in lunging and squatting; the lateral rotators, which rotate the femur to the side and away from the centre of the body; the adductors which draw the legs in toward the midline of the body; and the iliopsoas which provides flexion for standing, walking, and running.

### Identifying the ‘hip crease’ or kua

In taijiquan, as with Chinese martial arts study in general, the term kua (pronounced ‘kwah’) is used to describe the area of the inguinal fold, whose movement coincides with articulation of the hip joint. Kua can be translated into English directly as ‘hip’ but especially refers to the inguinal fold or ‘hip crease.’ A more specific term, ‘kuà gēn’ (胯根)—the ‘hip root’—is also used in taijiquan literature to describe the joining place where the head of the femur naturally settles into the hip socket. (See illustration 2)

Some early twentieth-century Chinese taijiquan authors use the terms ‘kua’ and ‘kua gen’ interchangeably to describe the inguinal fold. Pertinent expressions by taijiquan instructors include ‘loosen the yao (waist) and the kua’ or ‘sink the qi and settle the kua.’ Similes for kua relate to things that ‘collapse,’ are ‘slung





Author practicing outdoors

across,' or that 'straddle.' While there is no single word for 'kua' in English, the terms 'hip crease' or 'inguinal fold' adequately describe the kua's location and function for the purpose of discussing taijiquan. This natural pleat extends diagonally upward and outward from the perineum to where the inguinal ligament meets the anterior superior iliac spine.

The kua is identifiable by the visible diagonal folding of the fabric of one's pants. The fold of an untucked shirt or jacket, descending from the iliac crest down toward the groin area, serves to illustrate this. 'Settle into the hip,' or 'Relax the kua,' are instructions given by taijiquan teachers. Most students eventually become accustomed to the Chinese term 'kua,' and the word is used commonly by Chinese-speaking and non Chinese-speaking instructors alike, regardless of the classroom language.

### The kua and the perineum

While it would seem obvious that there is one kua for each leg, it should be noted that both kua stem from a single point at the perineum, known as the 'yin gathering' point (huìyīn 會陰). Recognizing this point as the place of origin for the kua/hip crease on either side makes it much easier to be consistently aware of the full range of movement of the kua as it 'opens' and 'closes.' Concentrating attention in only the upper part of the kua at the top of the pubis minimizes one's ability to settle into one's base of support (a process described as 'sinking' or 'rooting' by taijiquan players). If one is to devel-

op these skills more deeply and benefit from the full range of movement in the hip joint, one must learn to relax deeply into the kua, all the way to the perineum/huiyin.

## 2. THE ALIGNED 'HIP-TRACK'

Using the thighs of one leg (the 'driving' leg) to push the foot of that leg actively down into the ground causes the body to move away from one end of the stance and toward the other. If the hip-area muscles are relaxed during this process, there is no resistance to the force produced by the driving leg and weight will be transferred into the 'receiving' leg. One effect of this driving-leg/receiving-leg procedure is that a direct linear path, from one side of the stance to the other side, becomes apparent. This path is called the 'hip-track.' Movement and interaction based on taijiquan principles is dependent on practice that is supported by a correctly-aligned hip-track.

The correctly-aligned hip-track can emerge only if the hip joints, knees, and ankles remain in proper dynamic relationship with one another as the ball rotates in the hip socket during weight shifting. There must be no tension in either hip when the receiving leg's hip joint rotates to accommodate the force. The phrase 'settling into the hip-track,' therefore, means 'relaxing the muscles around the hip joints when weight transfer takes place, so that rotation inside the hip sockets is unobstructed by hip-area muscular tension.'

'Settling' or 'folding' the kua is a product of the release of muscle tension in the hip region and brings about a proper alignment between the base of support in the feet and the joints of the hips, knees, and ankles. This settled alignment is referred to by taijiquan players as 'root' or 'rootedness' and is felt as a deep stability and connection with the ground. Under these conditions the hip-track becomes the centre of movement for the kind of weight shifting that takes place within 'stances.'

### Moving through stances

In basic taijiquan practices, weight shifting occurs inside 'stances' (bù 步)—standing positions that support the actions for which taijiquan is practiced. Individual stances possess distinctive characteristics and are sometimes



known for the shapes they take; the 'horse stance' (m bù 馬步), for example, resembles the shape legs take when a person is riding a horse; the 'bow stance' (gōngbù 弓步) resembles a bent bow and a straight arrow. In a horse stance, the legs are positioned beside one another with space between them, which means the direction of movement of the hip-track is from one side to the other, either left to right or right to left, as rotation occurs in the hip joints. In a bow stance, where one foot is advanced and there is lateral space between the two feet, the hip-track appears to move diagonally. If the right foot is forward, the diagonal path extends from the back and left toward the front and right as weight shifts forward. Variations of these two stances, along with the 'half-horse stance' (bànmǎbù 半馬步), account for most instances of the emergence of the hip-track in traditional taijiquan practice.

#### **Movement errors**

Due to the postural demand of staying upright, a degree of tension is always present in the hip-area muscles. It is important that practitioners learn to distinguish between naturally occurring structural tension and unnecessary tightening of the muscles surrounding the hip joints. Movement errors related to excessive hip-area tension are easy to recognize as the pelvis juts obviously out to the side. When it is dropped, as a result of the settling into the hip joint, the pelvis remains naturally aligned with the joints and segments below. Pelvis and hip placement that is not aligned with knees and ankles is 'out of the hip-track' and 'uncentered.'

Another common movement error resulting in incorrect hip-track alignment originates from twisting at the ankles during the transfer of weight. When such twisting occurs, the hip-track becomes incorrectly aligned and compensations are made by the mover that further distort hip-track alignment. Twisting at the ankles is an example of an 'obstructive behaviour.' Four paired sets of obstructive behaviours—'bracing and clenching,' 'twisting and torquing,' 'augmenting and assisting,' and 'holding on and double grabbing'—negatively affect the alignment of the hip-track and contribute to the 'four errors' identified in early taijiquan literature. It takes great patience to recognize

the sources of the obstructive behaviours and to bring them under control.

#### **'Clear' hip joints**

Rotation that occurs as a direct consequence of pressure from the driving leg takes place not only in the receiving leg's hip joint but also in the hip joint of the driving leg. When the muscles around the hip joints remain largely without tension, both hip joints can rotate freely and thereby contribute to a correctly-aligned hip-track. It can then be said that the hip joints and kua are 'clear.'

'Clear' hip joints acquiesce to pressure, allowing force, movement, and kinetic energy to transfer through them. Forces that generate movement through the hip-track may come either from within one's own structure, such as the pressure exerted by a driving leg, or from an external source—for instance, from pressure applied by a push-hands (tuīshǒu 推手) partner. One additional advantage of this transferring from one 'clear' kua to the other is that the legs are strengthened in a unique way since the thighs function both to drive the movement and to receive the shifted weight.



**Sam Masich instructing a class.**





Sam using rings to practice his postures.

### Alignment of the ankles and the knees

The ankle joint is the juncture between the leg and the foot and consists of three bones held together by several ligaments. The structure of this articulation mainly facilitates movement in the form of dorsiflexion (the top of the foot is brought toward the shin) and plantar flexion (the top of the foot moves away from the shin). The ankle also allows a small degree of rotation and side-to-side movement; however, it is relatively easy to over-rotate and injure the joint. Over-rotating the ankle, or ‘twisting,’ especially during plantar flexion, is a main cause of strained and sprained ankles. These intrinsic structural limitations in the ankle joint make it possible to strain not only the ankles and but also the knees, which take up the stress once the ankle’s range has been breached.

The knee is a hinge joint whose primary function is flexion and extension between the upper and lower leg. It is even more restricted than the ankle when it comes to side-to-side movement. Although the ankle’s rotational capacity makes it possible for the kneecap to point inward, ideally the kneecap should remain oriented in the direction to which the foot is pointed to allow the entire leg optimal structural stability. Over-rotation of the ankles and knees during leg-weighted dorsiflexion can compromise the

knee alignment and cause strain, as when in a taijiquan movement one shifts to the back leg while twisting the rear-leg ankle inwards.

### Thigh development

It is important to recognize that the thigh-area muscles are some of the biggest muscles in the human body and are perfectly designed for the kind of loading found in taijiquan practices where there is an ongoing alternation between driving through one thigh and receiving into the other thigh. The weight shifting movements in taijiquan generally employ the quadriceps of the driving leg. These muscles are activated when standing up from a squatting position or in the downward ‘loading’ action preliminary to jumping. The gluteus maximus and adductors play a strong role in lunge-like weight shifting. When flexed, all these muscles can restrict freedom of movement in the hip joint, therefore, in stance work based on a correctly aligned hip-track, these muscle groups are purposely left relaxed.

Because the practice of minimizing hip-area muscle involvement necessitates that the quadriceps of the receiving leg bear much of the burden of the shifted weight, taijiquan practitioners who maintain a correctly-aligned hip-track develop strong quadriceps and a keen sense of balance.

In an effort to avoid discomfort in the thighs, many players clench the gluteus maximus and adductors, as this activation relieves pressure from the quadriceps. Training the legs in taijiquan requires maintaining relaxation in the hip region and developing a tolerance for discomfort in the thigh muscles as they strengthen. Many taijiquan masters advocate the practice of ‘standing post’ (zhàn zhuāng 站樁) body alignment exercises that strengthen the quadriceps and inure students to the inevitability of aching thighs.

## 3. FUNCTIONS OF THE HIPS AND KUA

From their location near the centre of the body, the hip-area muscles and hip joints perform several functions simultaneously. As large physical structures connected to the upper legs and pelvis, the muscles serve to support upper body weight; the rotating hip joints facilitate



movement; and the hip-track transfers power. It is important that the muscles surrounding the hip joints remain free of tension so that all of these effects can be realized.

### The 'channeling hip'

The weight of the upper body passes down through the settled hip joints directly into the thighs, creating conditions in which the legs and torso align themselves with one another and with gravity. Since the muscles that make up the quadriceps are some of the largest and the strongest muscles in the body, they are ideal for supporting the upper body's weight, leaving the torso free for action. Channeling the upper body's weight down through the kua into the supporting thighs is therefore one of the most important roles of the hip joint, especially when movement occurs between the various stances of taijiquan routines. Without correct ankle, knee, and hip joint alignment, and without tension-free muscles in the hip region, the body's weight, instead of being sustained principally by the thigh muscles, is distributed ineffectively across other muscle groups that are not designed primarily for structural support. This lateral spreading of tension demands types of exertion that are incompatible with the objectives of taijiquan and leads to a subtle, ever-present physical tension and anxiety that results in many kinds of errors. The resulting strain restricts mobility and creates barriers against connected, supported movement. Incorrect hip alignment also puts undue stress on the knees, further restricting movement and potentially causing pain and injury.

### The 'carrying hip'

When weight is shifted from one side of a stance to the other, the upper body remains undisturbed—as long as it is carried by movement that follows a correctly-aligned hip-track. Carried movement of the torso and head is smooth and steady when the receiving hip joint passively rotates in response to the force introduced by the driving leg. Without a smooth translation of forces, made possible by relaxation in the muscles around the hip joints, a confused energy possesses the legs, which then require ongoing compensatory assistance from the arms, buttocks, torso, and feet. When the

hip joints are 'clear' and movement through the hip-track is correct, the upper body is carried comfortably while the weight shifts securely to and fro.

### The 'transferring hip'

The hip joints, when loose and settled into their natural position, provide a conduit through which power from the legs is mediated upward into the torso to be directed by the waist. Hip joints unobstructed by muscular tension in the surrounding region allow the force of the legs to pass to the upper body unhindered. This is part of the meaning of the following line from 'The Taijiquan Classic' (Tàijíquán Jīng 太極拳經).

*Its root is in the feet; issued  
through the legs; directed from the  
waist; goes out from the fingers.*

If the hip joints are affected by surrounding muscle tension, power will be bound and prevented from its upward journey through the waist and beyond. The kua is concerned with both the shifting of weight in the legs and the delivery of power. The hip joint simultaneously performs the functions of transferring force upward, receiving incoming force, passing the weight of the upper body into the thighs, and shifting through the hip-track. ■



Master Sam Masich has inspired thousands of students along their path with his unique interpretation of the Chinese internal martial arts. His work as a full-time instructor has taken him to over a hundred cities in Canada, the United States, Mexico, England, Germany, Spain, Italy, Switzerland, Scotland, and China. Students from around the world have traveled to study with him in workshops and seminars such as his annual Summer Push Hands Training Camps held in Vancouver, Canada and in Berlin, Germany.

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