

# Basics of Using Hip

---

## Mechanics

### Overview

- *Koshi o ireru* (putting in the hip/lower back).
- “Hip” in the context of karate refers to the hara and entire muscle complex surrounding the hip area (gluteus, abdominal, hamstring, quadricep, oblique, lower back, hip flexor). Collectively, these muscle groups create an anatomical coil or spring.
- Potential energy is created by “winding up” the coil (horizontal hip) or bending the coil (vertical hip). Kinetic energy is produced by suddenly releasing and/or snapping the coil back into its natural position, which then transfers through the body and into the target via the point of contact.
- Effective use of hip requires a solid foundation in the stances.
- Effective transfer of energy from the rotating hips to the striking surface requires a relaxed upper body.
- Hip rotation allows you to add mass and acceleration to your techniques, thereby increasing force ( $F = ma$ ).
- Every technique should utilize the hip.

### Horizontal Hip

- Generates rotational velocity and centrifugal force by twisting the hips side to side. This is the most fundamental form of hip for beginners to learn.
- Three main components:
  - (1) Wind up: A natural “opening” or wind up of the hip, often associated with a step and cover. Hip area relaxes while turning approx. 45 degrees relative to the shoulders (the knot of your obi will be pointed off to either corner depending on the direction of the rotation).
  - (2) Release: A quick release or “firing” of the hip from the “open” position back to a “closed” squared off position. This is the motion that generates rotational velocity for your techniques. There is no hesitation between the wind-up and the release.
  - (3) Locking in: A final “locking in” of the muscles surrounding the hip finishes the move (“putting in the hip”). Maximum muscular contraction of all muscles is required at the moment of impact. This enhances the flow of energy into the opponent and protects your body from injury.
- Immediately afterward, all tension is completely released to conserve energy and relax the body in preparation for the next move.
- Upper body torque: Torque is created in the area between the hips and the abdomen by twisting the hips while keeping the shoulders “square.” Examples include punches and blocks performed in walking stance.
- Lower body torque: Torque is created between the hips and the upper leg muscles by “saving the hip.” In this case the hips and shoulders remain aligned as the feet move into the final position. Examples include turning techniques and block/counter combinations.

### Vertical Hip

- Vertical hip rotation is more subtle, involving a tilting of the pelvis upwards, as with elbow smashes and kicks, or downwards, as when tucking in the groin in cat stance. Vertical hip can be monitored by the amount of arch in the lower back and the angle of the obi relative to the floor.

### Additional Considerations

- Research how much hip rotation is needed to achieve a specific goal. Twenty degrees of rotation may be sufficient to block a punch, but not enough to break a board. Long term goal is to use less rotation and more speed.
- Timing issues: “Putting in the hip” can be brief if the goal is to quickly “launch” the technique toward the target (e.g., open hand chest blocks, jabs), or a bit longer if the goal is to “drive” the technique through the target at the moment of impact (e.g., reinforced chest blocks, breaking boards).

# Basics of Using Hip

---

## Recap

Precise timing of the kinetic chain (sequence of connected physical movements) requires a smooth flow of eyes, feet, hip, and hands with, according to Master Nagamine, “no gap in the order of succession”. This takes time and effort. Be patient and keep working on it. Advice from instructors is necessary, but it’s essential to explore the concepts yourself (with your unique body make-up). Refinement comes from thoughtfulness in repetition.

## Practice

### Half Speed and Power

- Use the mirror to explore the opening and closing of the hip. Look for the ends of the obi to swing (a still obi indicates lack of hip). Keep the shoulders straight and the feet rooted. Progress to using the hips to swing the arms loosely side-to-side.
- Using the mirror (or with hands on hips to feel the hip movement) work a technique or kata carefully exploring both the “open” and “closed” hip positions. Break each move down into two counts: 1 for opening the hip, 2 for closing it.
- Explore which techniques lend themselves naturally to “putting in the hip” and why. Reverse punch and chasing punch are good examples.
- As you start to feel you’re getting the hang of it at half speed and power, add light snap. If your form starts to suffer, go back and re-explore at a slower speed.

### Intermediate exercises

- Practice snap punches, back fists, or front snap kicks to see how hip can be used to generate speed on the *return* of a technique.
- Explore how turning the hips helps the feet root down to improve foundation, and how anchoring *both* feet to the floor is a prerequisite for *explosive* hip rotation.
- Research how the turns in kata naturally wind up the hip to facilitate horizontal hip rotation.
- Assess how going from a high stance to a low stance, or vice versa, changes the amount of arch in the lower back (vertical hip rotation) and adds mass to your implementation of hip rotation.
- Assess how moving forward into the target or backward away from the target affects mass transmitted through the utilization of hip.
- Finally, experiment with moves in a kata that involve both changes in height *and* turning. These allow you to incorporate both vertical and horizontal hip rotation.

### Makiwara

- According to Master Nagamine, “the most important function of makiwara training is to develop the maximum centrifugal force from the center of the body.”
- Try striking the makiwara using only hip rotation. Keeping the arm slightly bent throughout the exercise. You’ll be amazed how much power the hip can generate.
- Because the makiwara is such a firm teacher, it is very important to START SLOWLY AND LIGHTLY. Even light contact can give you a lot of valuable feedback on how you’re using your body.

## Recap

Time spent exploring use of hip is well worth the effort. The rewards in fluidity, speed and power are great. Using hip allows a smaller and lighter person to generate unexpected power and allows a larger heavier person to achieve unexpected speed. Employing the entire body as a coordinated unit leads to, as Master Nagamine describes, “a natural, beautiful, swift, stable, and powerful performance of kata.”