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Understanding Twists

By Arthur Kilmurray

Asanas that include a rotational component around the long axis of the spine are known as twists. This rotational movement is centered in the pelvis and generates a spiraling energy that continuously flows along the spinal column, opening each of the vertebral joints smoothly and sequentially. Twists can be done in combination with standing poses, seated or lying poses, backbends or inversions, with the kinesiological principles of spinal rotation remaining the same for all of the categories. An understanding of these fundamental actions will enable us to experience the underlying unity in all of the twisting poses, bringing refinement and increased sensitivity to our practice.

The first step in our analysis is to divide the body into two functional groups: the appendages, including the arms, shoulder girdle, legs and pelvis, and the torso, including the spinal column and head. The appendages provide the power that creates the asanas. In twists, they generate a rotational action that flows into the spine. The torso-spinal column receives this spiraling energy. It is very important to clearly differentiate between the creative and receptive parts of the body. A closer look at the torso will reveal the intimate relation and interaction of these two modes, which go into generating a twisting pose.

We will divide the torso into five segments. Although the pelvis is also included with the legs as an appendage, for kinesiological purposes the pelvis can be considered as part of the spine. The leverage (intelligence, energy) of the legs is directed through the center of the pelvis and from there into the spine. The pelvis will be considered as the first segment. The pelvis can rotate around three possible axes: the forward bend-backbend axis that runs perpendicular to the spine and through the hip joints; the side bend axis, perpendicular to the spine and intersecting the body at the sacrum and at a point just below the navel; and the rotational axis, parellel to the spine. These three axes intersect at a point in the center of the pelvis. This point corresponds to the hara, the center of gravity, and the second chakra, and is the major creative center of the physical body. All twists originate here. The creative energy of the legs feeds into this point and the pelvis rotates to begin the twist.

The second section of the torso is the lumbar-abdominal region including the diaphragm. This receptive area contains the third chakra and should always be relaxed and fully extended. Ramanand Patel calls this "having a happy navel." Unfortunately, most of use this as our creative center and begin and control all movements from here. This induces tension in the abdominal muscles, which spills over into the diaphragm and restricts the breath. (Note that the abdominal muscles can be toned, i.e. provide structural support, without being tense. Tension is holding on from the mind.) One major reason for this kinesiologically poor action is tightness in the hip joints. When the pelvis is stuck or frozen, the movement must originate further up the spine. In twists, this action will produce a torque or twisting force at the sacro-illiac joints, a vulnerable area of the body not designed for such movement. In the correct action, the pelvis absorbs most of the torque as it rotates around the hip joints. The lumbar region receptively lengthens and the sacro-illiacs are protected. Because of their structure, the lumbar vertebrae have limited rotation available to them (approximately 60 degrees total). This rotation will be facilitated when there is maximum space between these bones and when the normal lumbar curve is present. The position of the bones determines how well the spiral flows through the spine.

The third section of the torso is the thoracic region. The thoracic vertebrae have double the rotational range of the lumbar (120 degrees) and thus much more of the twist is experienced here. The key point in this area corresponds to the heart chakra and is where the creative intelligence of the arms and shoulder girdle intersects the spine. The rotational wave generated by the upper limbs must harmonize with the wave flowing upwards from the pelvis, blending to create one spiraling movement. The receptive lengthening of the third chakra region allows this harmoni-

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ous interacting of the second and fourth chakra regions. The energy of the arm-shoulder girdle complex must flow into the spine at the heart center. Often the arms overwork, leaving the spine behind, which produces a pinching of the shoulder blade against the muscles of the back. This is especially true of the lead arm. The arm, scapula, ribcage and spine should move together harmoniously.

The fourth section, the neck or cervical region, receives the spiraling wave from below. The cervical vertebrae have the greatest range of rotational movement (180 degrees) and often race ahead of the thoracic vertebrae in the twist. This is because the fifth segment, the head, tries to generate the twist. This will produce tension in the neck muscles and is to be avoided. Only the arms and legs generate the creative energy. The triceps and quadriceps muscles are the major power plants of the musculo-skeletal system. The spine is like an antenna, vibrating to the complex wave patterns created by the intelligence of the arms and legs.

There is an added degree of complexity to the spiraling wave of the twisting poses. Rotation of the spinal column is always accompanied by side bending of the vertebral bodies and vice versa. However, side bending is an unwanted distortion of the spine, and corrective adjustments must therefore be made. In the cervical region, rotation and side bending occur to the same side. When the neck rotates to the left, it also side bends to the left. This is easy to experience directly. Turn your head to the left and feel what happens to your chin. To correct for this, the muscles on the lead side of the neck should lengthen more than those on the following side. Interestingly enough, rotation in the thoracic and lumbar vertebrae is accompanied by side bending to the opposite side. Rotation right produces side bending to the left and vice versa. Thus, when twisting to the right, the left spine should lengthen more than the right spine. Reverse when twisting to the left.

One of the major benefits of the twisting poses is their effect on the intervertebral discs. The rotation of the spine moving into a twist compresses these soft tissue shock absorbers, while the derotation coming out of the pose releases them. This squeezing and releasing produces a sponge-like action allowing the disc cells to absorb fresh nutrients and remove metabolic wastes. Without this action, the disc will slowly dehydrate and eventually degenerate. However, this compression of the discs in twisting can exacerbate any disc pathology. Twists are contra-indicated for anyone with neurological indications of disc problems (numbness and/or sharp tingling pain in the lumbar, pelvic or leg areas). Teachers should take note of this.

As the intelligence of the body increases, it will become easier to separate the various body segments, allowing us to become more and more creative in our practice. Learn to move the pelvis and the thigh bones independently, from all possible positions of the hip joint (flexion, extension, ab- and ad-duction, internal and external rotation) and with the knee flexed and extended. This is a key action in every asana. Learn to pacify the abdomen and diaphragm while lengthening the lumbar spine. Learn to harmonize the action of the arms and scapulas with the upper spine and ribcage. Yoga is like music with harmonious flowing patterns of low notes (lower chakras) and high notes (upper chakras). Each asana has its own melody, harmony and rhythm. The exploration of the subtleties and possibilities of tuning every muscle cell and fiber to the rhythm of the cosmos will bring the joy of endless discoveries.•

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