

THE SEVEN SENSORY SYSTEMS

VISUAL (Seeing/Sight)

AUDITORY (Hearing)

TACTILE (Touching)

OLFACTORY (Smelling)

GUSTATORY (Tasting)

PROPRIOCEPTIVE SYSTEM

VESTIBULAR SYSTEM

WIKIPEDIA: Proprioception (/ˌproʊpɹiəʊˈsɛpʃən, -priə-/^{[1][2]} *PRO-pree-o-SEP-shən*), from Latin *proprius*, meaning "one's own", "individual", and *capio, capere*, to take or grasp, is the sense of the relative position of neighboring parts of the body and strength of effort being employed in movement.^[3]

In humans, it is provided by **proprioceptors** (muscle spindles) in skeletal striated muscles and tendons (Golgi tendon organ) and the fibrous capsules in joints. It is distinguished from exteroception, by which one perceives the outside world, and interoception, by which one perceives pain, hunger, etc., and the movement of internal organs.

WIKIPEDIA: The brain integrates information from proprioception and from the vestibular system into its overall sense of body position, movement, and acceleration. The word *kinesthesia* or *kinæsthesia* (*kinesthetic sense*) strictly means movement sense, but has been used inconsistently to refer either to proprioception alone or to the brain's integration of proprioceptive and vestibular inputs.

NORTH SHORE PEDIATRIC THERAPY: Proprioception, sometimes referred to as the sixth sense, informs us of our body position in space. Receptors for this system are located primarily in our muscles and relay information on muscle length and tension. This allows us to know where our joints are positioned as well as the amount of force against our body and the effort our muscles need to apply at any given time.

SPD AUSTRALIA: Proprioception and kinesthesia, the sensation of joint motion and acceleration, are the sensory feedback mechanisms for motor control and posture. These mechanisms along with the vestibular system, a fluid filled network within the inner ear that can feel the pull of gravity and helps the body keep oriented and balanced, are unconsciously utilized by the brain to provide a constant influx of sensory information. The brain can then send out immediate and unconscious adjustments to the muscles and joints in order to achieve movement and balance.

Proprioception, also often referred to as the sixth sense, was developed by the nervous system as a means to keep track of and control the different parts of the body. An example that enables one to best understand this sensory system is one showing what

happens if this sensory system is no longer there. A normal person is able to move a finger, knowing where and what the finger is doing, with little effort. The normal person could just volunteer the finger to move back and forth and proprioception would make this an easy task. Without proprioception, the brain cannot feel what the finger is doing, and the process must be carried out in more conscious and calculated steps. The person must use vision to compensate for the lost feedback on the progress of the finger.

The **vestibular system**, in most mammals, is the sensory system that provides the leading contribution to the sense of balance and spatial orientation for the purpose of coordinating movement with balance. Together with the cochlea, a part of the auditory system, it constitutes the labyrinth of the inner ear in most mammals. As movements consist of rotations and translations, the vestibular system comprises two components: the semicircular canals, which indicate rotational movements; and the otoliths, which indicate linear accelerations. The vestibular system sends signals primarily to the neural structures that control eye movements, and to the muscles that keep an animal upright. The projections to the former provide the anatomical basis of the vestibulo-ocular reflex, which is required for clear vision; and the projections to the muscles that control posture are necessary to keep an animal upright.