



Meet Ms. Musclehead

Meet Ms. Musclehead. Ms. Musclehead is color-coded. Below are the names of Ms. Musclehead's muscles (according to their colors) and the symptoms that can arise from tension in those muscles. I shall work from bottom to top, heading toward the ear, with some of the more common shoulders, neck, and jaw muscles, which I have highlighted for you. Other muscles are mentioned to help determine which muscles might bother you.

Yellow - The **trapezius** muscle (far right, bottom) runs from the top of your shoulder to the base of your neck and teams up with the sternocleidomastoid muscle (muscles on the side of the neck). Upper trapezius muscle tension causes one-sided headaches up one side of the head, behind the eye, across the side and front of the head, and the jaw. Neck muscles often cause head and face pain, but not neck pain, because their trigger points most often refer to pain in other areas.

Yellow Orange - The **sternocleidomastoid** muscle runs up the side of Ms. Musclehead's neck. The sternocleidomastoid muscle causes postural dizziness, imbalance, space perception, vestibular disturbance, tearing of the eye(s), reddening of the conjunctiva, and can affect hearing. The source of the sensory suppliers of this muscle is the C2 and C3 nerve roots. Any tension in these areas can cause disturbed proprioceptive information to the brain.

Behind the sizeable sternocleidomastoid muscle (you can't see them) are the semispinalis capitis and semispinalis cervicis muscles (the lower side of the neck) and the splenii muscles (under the ear at the upper side of the neck). Any tension in the semispinalis capitis and semispinalis cervicis muscles causes pain, numbness, tingling, and burning of the scalp and the back of the head, even without any sign of a nerve being pinched. The splenii muscles are the ones that are the most responsible for a stiff neck and problems rotating your neck. They also refer pain to in the face and head muscles.

The levator scapulae (another muscle you cannot see) runs up behind the sternocleidomastoid muscle and crosses over the tensor tympani muscle in the inner ear. If this muscle is tense, it may impact the tympani. You will see why this information is essential in the next section.

I'll go even further to tell you that under the semispinalis muscles are the suboccipital muscles that help the head tilt, flex, extend, and rotate. They tense up very easily when we keep our skulls in a head forward position too often, have one leg shorter than the other, or have pelvic asymmetries.

Chronic head forward posture (slouching) involves the neck and leads to masticatory muscle imbalance, which is, basically, TMJ, now called CMD (*Craniomandibular Dysfunction*), which sounds like a mouthful. Still, it simply means bad posture can cause muscle imbalance, leading to Tinnitus.

CMD can cause a headache, throat pain, dizziness, deafness, other hearing impairment, tinnitus, a sensation of fullness in the ear (which sometimes extends to the side and back of the head), and vertigo. These symptoms are caused by muscle shortening, impaired muscle functioning, and trigger points. Trigger points are associated with *Tension Myositis Syndrome* and *Myofascial Pain Syndrome*. Anytime TMS or MPS is involved, muscles suffer from oxygen deprivation, called *ischemia*. Ischemia causes pain and contraction. If you experience *Bilateral Tinnitus* (both ears), the cause may be something else, or you may have Tension Myositis Syndrome (TMS) or Myofascial Pain Syndrome (MPS) on both sides of your body.

Red - This muscle, located in front of the ear and rounding down under the jaw, is the **masseter** muscle. The masseter and the sternocleidomastoideus work together like best friends. The masseter muscle is most highly responsible for causing the ringing in the ears associated with Tinnitus.

Purple - This is the **temporalis** muscle. The temporalis and the masseter muscles work together to help Ms. Musclehead chew. This muscle can cause a temporal headache (you know that throbbing pain you get in your temple?), pain in the upper dentures, and premature tooth contact. Mouth breathing, gum chewing, uneven bite, continually chewing on just one side of the mouth, and constant cervical (neck) traction can irritate this muscle.

The **lateral and medial pterygoid** arising from the angle of the jaw can cause pain in the mouth, tongue, pharynx, hard palate, and the region in which they are located (jaw). These two can cause a feeling of ear stuffiness.

The head, face, jaw, and neck muscles help us chew, move our jaws from side to side, up and down, and turn our heads in every direction. They are all interrelated. If tension arises in even *one*, muscle imbalances can occur.

Things that cause masticatory muscle imbalance are grinding your teeth at night, clenching your teeth, playing with your teeth with your tongue, chewing the insides of your cheeks, chewing things that are hard like nuts and ice, teeth that are not correctly aligned (occlusal disharmony), teeth that do not meet adequately, *Folic Acid* deficiency (causes restlessness of the chewing muscles), dental procedures that overstretch the muscles, muscle tension (trigger points) due to stress (especially in the trapezius, sternocleidomastoideus, and the masseter muscles), stress, disease or injury to the cervical (neck) region of the spine.

How TMS & MPS Cause Tinnitus/Meniere's Syndromes

The tiniest muscle in the human body is the stapedius muscle. This tiny muscle stabilizes the stapes bone, just one of the three smallest bones in the body, also found in the middle ear, the others being the malleus and the incus. They transmit sounds from the air (outside your body) to the cochlea (the fluid-filled labyrinth). If these little bones were not there, it would mean moderate to severe structural hearing loss. These little bones move slightly when noise is heard. The extent to which they move is controlled by the muscles attached to them, the stapedius and the tensor tympani (sometimes spelled *timpani*).

Hyperacusis as it Relates to Muscle Tension

If the stapedius muscle is paralyzed or restricted in any way, the result is a heightened reaction of these little bones to sound. You end up with *Hyperacusis*, where noise is perceived louder than it is.

The sternocleidomastoideus and the masseter muscles influence the stapedius and the tensor tympani. Trigger points in the masseter muscle (Ms. Musclehead's red muscle) work with the temporalis muscle (Ms. Musclehead's purple muscle) in causing *Unilateral Tinnitus*. Unilateral Tinnitus is ringing, and other symptoms are experienced in one ear.

Remember, the stapedius muscle creates the movement of the three tiny bones of the middle ear. This tiny muscle depends on accurate information from the sternocleidomastoid and the masseter muscles. It needs to turn *to* allow the three tiny bones to hear correctly. If muscle signal information is inaccurate, you have ear symptoms like Tinnitus and Meniere's.

Acoustic reflex (*reflex threshold*) is an involuntary muscle contraction that occurs in the middle ear in response to loud noise. Some people can voluntarily contract this muscle. It makes a vibrational or rumbling sound. When it activates at lower frequencies, it is dysfunctional. It can mean neural hearing loss if it does not react at all.

There is a syndrome called *Tonic Tensor Tympani Syndrome* (TTTS). This occurs when the tympani is constantly tight and cannot relax, which leads to a tightening of the eardrum. The symptoms are ear pain, fluttering or vibrational sensations, and ear fullness.

In people with Hyperacusis, there is an increased activity of the reflex threshold caused by the anticipation of loud sound, which is a "startle response" mechanism, usually due to stress. I mention this as most people with Tinnitus and Meniere's also experience these symptoms.

And there you have it. Muscle tension in the back, shoulders, and neck directly influences your ears and can cause symptoms of hearing impairment, *Tinnitus Syndrome, Meniere's Disease, and dizziness*.

