

# **Anatomy and Physiology of the Face for Cosmetic Acupuncture: Muscles of Expression**



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# **ANATOMY AND PHYSIOLOGY OF THE FACE FOR COSMETIC ACUPUNCTURE: MUSCLES OF EXPRESSION**

## **INTRODUCTION**

The muscular system covers, shapes, and supports the skeleton. It relies upon the central and peripheral nervous system for its signaling, and the circulatory system for its nourishment. All movement, voluntary and involuntary, is coordinated by muscle activity. The study of the structure, function, and diseases of muscles is referred to as myology.

Facial muscles are a complex group of small, fibrous, elastic bands. Their movements rely on sensory or somatic nerve stimulation. Unique to the face are the *muscles of expression*. It is through the activity of these muscles that we familiarly communicate with one another. Muscles of expression convey one's thoughts, emotions, and moods.

With time, the elastic bands of muscle fibers change. They degrade, stiffen, and lose their natural shape and resilience. Cosmetic Facial Acupuncture (CFA) is a highly effective treatment for restoring face muscle integrity and function. CFA specialists are trained to locate, analyze, and treat the muscles of the face.

## **CFA**

In Traditional Chinese Medicine (TCM), health is determined by a person's ability to maintain a harmonious and balanced internal environment. Dis-ease, muscle sagging, premature aging, wrinkles, and skin problems occur when one's internal environment is disturbed. Practitioners of CFA view disharmony in the Zang-Fu organs, meridians, qi, Blood, and fluids as the core of cosmetic-related complaints. The etiology of these conditions is embedded in the pattern recognition, diagnosis, and treatment of qi, Blood, and fluids as they influence and are influenced by the elements, Organs, and meridians.

Evidence demonstrates that acupuncture treatment produces numerous physiological effects including an improvement of muscle tone, decrease in muscle tension, and enhancement of local blood flow. It is believed that acupuncture is capable of producing the same excitatory characteristics within the muscle and motor nerve activity as does exercise. Research also suggests that acupuncture can be utilized as an adjunct to hypertrophy training such as bodybuilding. Acupuncture can help develop specific muscle groups, accelerate recovery from both workouts and injuries, and stimulate the production of growth hormones and testosterone. Because of its influence on the nervous system it can be beneficial for increasing joint-specific flexibility. Acupuncture has been shown to alter electromyographic activity of a stimulated muscle and therefore has the potential to change the tension within a muscle or muscle group.

## **BENEFITS OF CFA**

- Improves muscle quality and activity
- Eliminates fine lines and softens deeper wrinkles
- Increases circulation and lymph drainage in muscle and surrounding tissue
- Enhances overall appearance and health
- Adjusts Organ and Meridian imbalances and deficiencies
- Reduces physical, mental, and emotional stress, tension, and fatigue

### **Treating Muscles of Expression with Acupuncture**

Acupuncture points in the face and forehead region are located along branches of certain nerves. Insertion of acupuncture needles into the acupuncture points, excites muscle activity to directly and indirectly lift, tone, or relax them (1)(2). Below is a list of acupuncture points for specific regions of the face. The section of this course entitled *Muscles of Expression* will highlight acupuncture points for individual muscles.

*Forehead:* BL 2, 3, GB 1,13,14,15, ST 8, Yin Tang, Yu Yao

*EyeLid:* BL 1, 2, 3, GB 1, 13, 14, 15, TH 23, Yu Yao, Tai Yang

*Cheeks:* ST 3, 4, 5, 6, 7, 8 SI 18, LI 20, TH 17, 23, GB 2

*Chin:* CV 24, .5 inch lateral to CV 24, CV 23, .5 inch lateral to CV 23, ST 4, 5

*Neck:* CV 23, 5. inch lateral to CV 23, TH 16, 17, SI 16, 17, ST 9, 10,11, 12, LI 17, 18, K 27

### **THE SKELETAL SYSTEM**

The skeletal system stabilizes and supports the head and body. The skull, an oval bony case, shapes the head and protects the brain. The eight bones of the top of the skull known as the cranium covers the brain. The remainder of the skull consists of fourteen facial bones. Facial bones provide attachments for face muscles and encase passageways to the respiratory and digestive systems. Cranial and face bones are held together by fibrous tissue known as sutures. Natural holes or openings in the skull called foramen allow muscles, nerves, arteries, veins, or other structures to connect one part of the body with another. The skull has numerous foramina through which cranial nerves, arteries, veins, and other structures pass.

## CRANIAL BONES

*One occipital bone:* forms the lower back part of the cranium.

*Two parietal bones:* two paired bones; they are large and curved and form the sides and top of the cranium.

*One sphenoid bone:* shaped like a bat or a butterfly, it joins together all of the bones of the cranium.

*One frontal bone:* a dome-shaped bone that forms the forehead and portions of the orbits of the eyes. A smooth portion of the bone located between the orbits is known as the glabella.

*Two temporal bones:* form the sides of the head in the ear region. It encloses the ear canal; a portion also projects into the cheek to help form the cheekbone.

*One ethmoid bone:* an irregular shaped light spongy bone located between the eye sockets. It forms the orbit of the eye and part of the nasal cavity.

## BONES OF THE FACE

*Two lacrimal bones:* small fragile bones located at the front part of the inner wall of the eye sockets behind the nasal bone.

*Two nasal bones:* form the bridge of the nose.

*Two turbinal bones:* thin layers of spongy bone situated on the outer walls of the nasal depression.

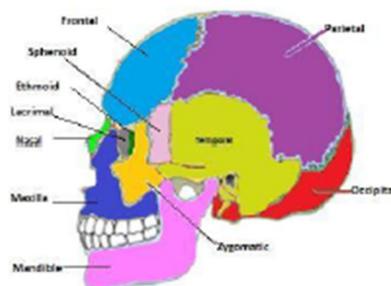
*One vomer bone:* forms part of the dividing wall of the nose and separates the right and left nasal cavities.

*Two palatine bones:* form the floor and outer wall of the nose, roof of the mouth, and floor of the eye orbits.

*Two zygomatic or malar bones:* also known as the cheekbones, form the prominence of the cheeks. These also form portions of the orbits of the eyes.

*Two maxillae bones:* the upper jaw bones, when joined they form the whole upper jaw.

*One mandible bone:* a u-shaped bone that forms the lower portion of the jawbone. It is the largest and strongest bone of the face.



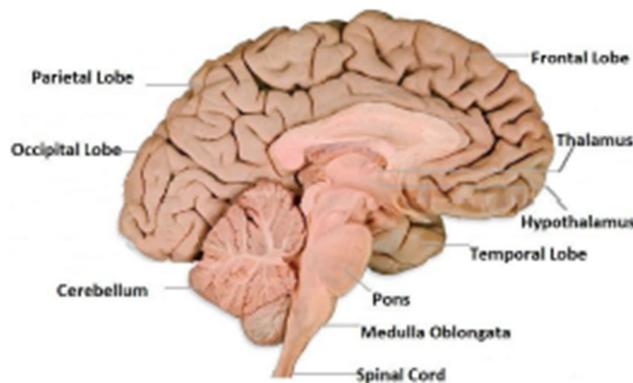
## BONES OF THE NECK

*Cervical vertebrae*: a series of small bones located in the region of the neck that form the top part of the spinal column.

*One hyoid bone*: commonly called the “Adam’s apple”, a u-shaped bone located in the front part of the throat.

## THE BRAIN

The brain is located under the top of the skull. It is extremely complex and has many functions. It is the center of activity for the face and body. The largest part of the brain, the cerebrum, is responsible for conscious processing. The second largest portion of the brain, the cerebellum, helps coordinate and control movement. A relay process of signals between the brain and facial muscle activity occurs in the base of the brain called the brain stem. The midbrain, located in the brain stem, contains fibers that carry sensory impulses from the spinal cord to and from the brain. The pons and the medulla, also located in the brainstem, carry signals between the various parts of the brain. The brain stem connects to the spinal cord. Cranial nerves enter the face from the brain stem.



## THE NERVOUS SYSTEM

The nervous system is an organized network of neurons and nerve fibers. Categorized into three main systems, central, peripheral, and autonomic, the nervous system controls human activity by continuously transferring impulses across nerve fibers into and throughout the entire body. Brain and spinal cord nerves make up the central nervous system. Their branches constitute the peripheral nervous system. The autonomic nervous system is part of the peripheral nervous system and regulates the functions of internal organs such as the heart, stomach and intestines. Determined by their place of origin, either the brain or spinal column, the peripheral nervous system is further classified into two additional groups; cranial nerves and spinal nerves. Cranial nerves originate from the brain and mainly affect the head and neck. Spinal nerves originate from the spinal cord and influence all body parts below the neck. Cosmetic acupuncture focuses on the cranial nerves.

The two types of cranial nerves are sensory and motor. Sensory nerve endings, called receptors, are located near the surface of the skin. Sensory, or afferent nerves, receive sensory stimuli such as touch, cold, heat, sight, hearing, taste, smell, and pain and carry these messages or impulses from sense organs to the brain, where the sensations are then experienced. Motor or efferent nerves, located below the skin surface, signal the brain to stimulate muscle contraction. In the case of

muscle movement, impulses pass from sensory nerves to the brain, across motor nerves, then to the targeted muscle, causing it to contract. Cranial nerves can be sensory, motor, or both.

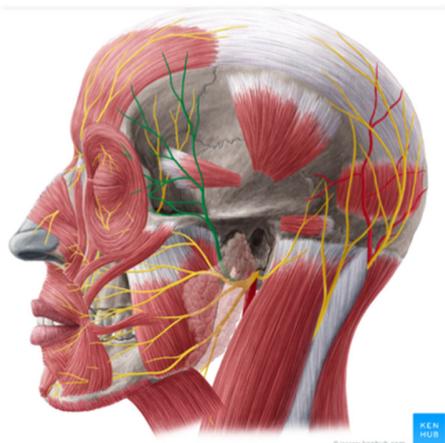
There are 12 pairs of cranial nerves. Designated by number and name, in most cases the name defines its function. For example, the olfactory nerve is named as cranial nerve I and is responsible for sense of smell. The optic nerve is cranial nerve II, and is responsible for vision and eyesight. The vestibulocochlear nerve is cranial nerve VIII and is responsible for hearing and maintaining equilibrium. Olfactory, optic, and vestibulocochlear nerves carry only sensory fibers. All other cranial nerves contain motor or both motor and sensory fibers. Facial muscles of expression are dependent primarily on cranial nerve VII, and secondarily on cranial nerves V and XI.

## CRANIAL NERVES

Number	Name	Sensory, motor, or both	Function
I	Olfactory	Sensory	Transmits the sense of smell from the nasal cavity.
II	Optic	Sensory	Transmits visual signals from the retina of the eye to the brain.
III	Oculomotor	Motor	Controls movement of the eyeball and focusing of the lens.
IV	Trochlear	Motor	Controls eye movement.
V	<b>Trigeminal</b>	<b>Sensory and Motor</b>	<b>The largest of the cranial nerves. It is the chief sensory nerve of the face, and the motor nerve of the muscles of mastication.</b>
VI	Abducens	Motor	Effects lateral movement of the eye.
VII	<b>Facial</b>	<b>Sensory and Motor</b>	<b>This is the chief motor nerve of the face. It controls facial expression, glands of the palate and nose, and the taste buds in part of the tongue.</b>
VIII	Vestibulocochlear	Sensory	Known as the auditory nerve and functions in hearing and maintaining equilibrium.
IX	Glossopharyngeal	Sensory and Motor	Associated with taste sensation and saliva secretion.

X	Vagus	Sensory and Motor	Carries sensations from and to the soft palate, heart muscle, stomach, kidney, and intestine. It is associated with blood pressure, numerous visual activities, and swallowing.
XI	Spinal Accessory	Motor	Controls the movement of the head, neck, shoulders, larynx, and ability to speak.
XII	Hypoglossal	Motor	Plays a role in speech, swallowing, and other movements of the tongue.

Of primary importance are nerves of the face - the trigeminal nerve (cranial nerve V) and the facial nerve (Cranial nerve VII). The trigeminal nerve is the largest of the cranial nerves. It is the chief sensory nerve of the face and the motor nerve of mastication. The facial nerve (cranial nerve VII) is the chief motor nerve of the face. It controls facial expression, glands of the palate and nose, and the taste buds in part of the tongue.



**Trigeminal Nerve in Green**

**Facial Nerve in Yellow**

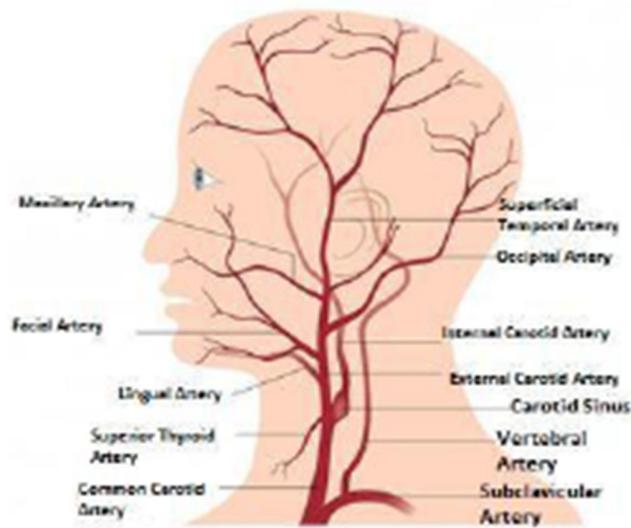
## THE CIRCULATORY SYSTEM

The circulatory system is a closed circuit of vessels, including arteries, veins, and capillaries. It is designed to transport blood from the heart through the face and body, and then back to the heart. Located on either side of the neck, are the common carotid arteries. Divided into external and internal carotid arteries, they are the primary sources of blood supply to the head, face, and neck. The external branch innervates most of the head, face, and neck. The internal division supplies blood to the brain, eye sockets, eyelids, and forehead.

The movement of fluid through the body is referred to as the circulatory or vascular system. The body contains four predominant types of fluid: blood, plasma, tissue fluid, and lymph. Blood consists of blood cells, blood platelets, plasma - the liquid portion of blood where blood cells are suspended, and a variety of chemical substances dissolved in the plasma. Tissue fluid (intercellular fluid) is the solution that bathes and surrounds cells. Lymph, a clear liquid substance, travels through the lymphatic system.

The facial artery, also known as the external maxillary artery, directs blood to the lower region of the face, mouth, and nose. The four branches of the facial artery are the:

1. *Submental artery*: supplies blood to the chin and lower lip.
2. *Inferior labial artery*: supplies blood to the lower lip.
3. *Angular artery*: supplies blood to the sides of the nose.
4. *Superior labial artery*: supplies blood to the upper lip and nasal septum.



Extending from the external carotid artery is the superficial temporal artery. The superficial temporal artery has five branches and supplies blood to the muscles, skin, and scalp on the front, side, and top of the head:

1. *Frontal artery*: supplies blood to the forehead.
2. *Parietal artery*: supplies blood to the crown and sides of the head.
3. *Transverse facial artery*: supplies blood to the masseter.

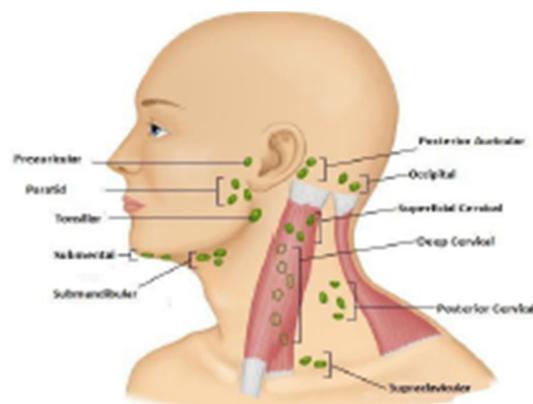
4. *Middle temporal artery*: supplies blood to the temples and eyelid.
5. *Anterior auricular artery*: supplies blood to the anterior part of the ear.

Another branch of the common carotid arteries, the occipital artery, supplies blood to the scalp and back of the head. The sternocleidomastoid artery, and feeds blood to the sternocleidomastoid muscle. The posterior auricular artery innervates the scalp, above and behind the ear. As blood returns to the heart from the head, face, and neck it flows on each side of the neck via two principle veins; the external jugular vein which feeds the head, neck, and skin; and the internal jugular vein which nourishes the brain.

### THE LYMPHATIC SYSTEM

The lymphatic system consists of the tonsils, adenoids, spleen, and thymus glands and is part of the circulatory system. It includes a network of organs, lymph nodes, lymph ducts, and lymph vessels that transports and filters body fluid. Lymph, a transparent, usually slightly yellow, watery fluid, travels through lymphatic vessels. The primary function of lymph is to carry nourishment and immune enhancing lymphocytes from the blood to the cells, remove waste from the cells, and transport the debris back to the veins in the blood system.

The lymph system is also a major part of the body's immune system. Lymph nodes are organized collections of lymphoid tissue, through which lymph passes. Lymph nodes create and store immune cells that help the body fight infection. They also filter the lymph fluid and remove foreign material such as bacteria and cancer cells. Lymph nodes are located at intervals along the lymphatic pathways. The primary locations of lymph nodes on the face are along the side of the face, along the jawline, in front of the ear, and along the side of the neck. In the head and face, lymph enters the bloodstream at the junction of the internal jugular and subclavian veins and returns to the venous bloodstream through the thoracic duct.



### THE MUSCULAR SYSTEM

Muscles are contractile fibrous tissue upon which all body movements depend for their activity. There are three kinds of muscles: skeletal, smooth, and cardiac. Skeletal muscles, such as those of the face, arms and legs, are striated and generally attach on one or both ends to the skeleton. They are voluntary, meaning they are controlled by will. Smooth muscles are non-striated and involuntary and therefore contract automatically. Smooth muscles are spindle-shaped and are located in walls of internal hollow organs such as those of the stomach and intestines. The cardiac

muscle is the muscle of the heart and is also involuntary.

When a muscle contracts and shortens, one of its attachments usually remains fixed, and the other moves. The *origin* of the muscle is the term applied to the fixed point. Most muscle origins of the body attach to a bone. The *insertion* of the muscle is the term applied to the more movable end of attachment. Muscles of the body insert into a movable bone or tendon.

## FACE MUSCLES

Although face muscles are skeletal muscles they differ from other skeletal muscles of the body. Most body muscles, like the hamstrings in the leg or the biceps in the arm, stretch from one bone to another, usually across a joint. When these muscles contract, the bones involved move closer together. Face muscles, however, generally have the origin (the fixed end) attached directly or indirectly to the bones of the skull, face, or into face tissue such as the lip, or skin of the chin. The insertion of the muscle (the movable end) is stitched into the skin or into a muscle that is attached to skin. When a muscle of expression contracts the insertion portion of muscle is pulled in the direction of its origin and it is skin, rather than bone, that moves.

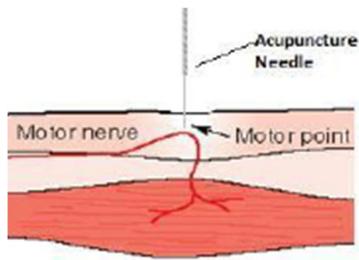
Facial muscle organization is complex and requires a thorough understanding. In general;

- they do not push, they pull
- as a muscle shortens, its insertion moves toward its origin
- what one muscle (or muscle group) does, another muscle (or group) acts as an *antagonist*, and “undoes”

Muscle development depends largely on its extent of use. Muscles strengthen when regularly contracted, lengthen when stretched, or weaken (atrophy) when underutilized. Muscle atrophy is visible when a broken limb is immobilized for a long period of time. In most facial expressions, the eyes, brows, and mouth are the areas of greatest muscular activity and undergo the most change.

## MOTOR POINTS

The point in which a motor nerve enters a muscle is called the *motor point*. Although generally located over the center of the belly of the muscle, it can be located over any portion of the muscle upon which electrical stimulation triggers muscle activity. Similar to acupuncture points, they are located near the surface of the skin. Like extra points in TCM, they are not found along a standard pathway. Motor points are however somewhat predictably located and when stimulated via electrode or acupuncture (3), cause the underlying muscle to contract.



## MUSCLES OF EXPRESSION

There are twenty to twenty-six face muscles of which twelve to twenty are key muscles of expression. For the purpose of this course we will focus on five muscles that affect the eye and brow area and eight muscles that affect the mouth and neck. Four additional muscles, although not considered muscles of expression, influence the other twelve and are included in this discussion.

The major muscles affecting the eyes are:

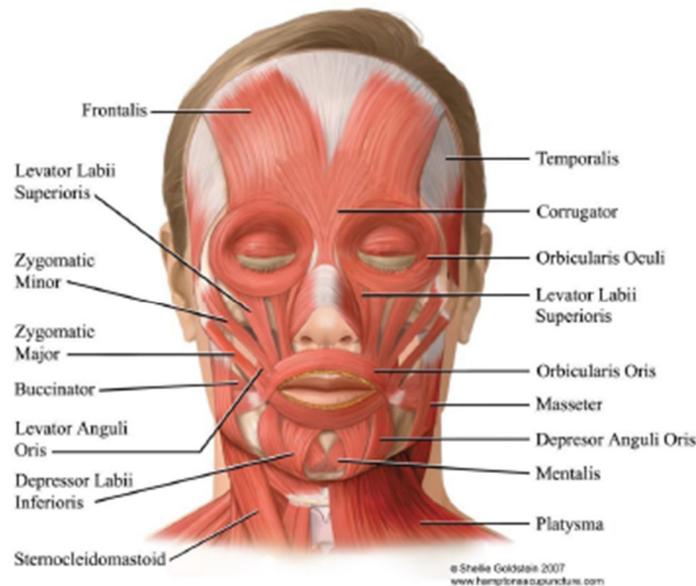
- Frontalis
- Orbicularis Oculi
- Corrugator
- Procerus
- Levator Palpebrae

The major muscles affecting the mouth are:

- Levator Labii Superioris
- Zygomatic Major
- Depressor Anguli Oris (Triangularis)
- Mentalis
- Orbicularis Oris
- Risorius
- Platysma
- Depressor Labii Inferioris

Influential muscles that affect the muscles of expression are:

- Temporalis
- Buccinator
- Masseter
- Sternocleidomastoid



### ***Frontalis***

The frontalis is a broad band muscle that covers the dome of the skull and the forehead. Its origin is fixed to the Galea Aponeurotica, a sheet-like tendon on the top of the head at the hairline. The insertion end attaches to the skin under the eyebrow. It is innervated by cranial nerve VII. The frontalis has two antagonistic muscles, the orbicularis oculi and corrugator. The motor points for the frontalis are GB 14 and ST 8. When it contracts the frontalis pulls the skin above the eyes and nose upward towards the hairline. Known as the brow lifter, it lifts the eyebrows, and draws the scalp forward. Continuous contraction of the frontalis causes horizontal creasing across the forehead. Contraction of this muscle often occurs when experiencing fear, sadness, and surprise or when deep in thought. In TCM, the frontalis is classically treated for headaches, eye twitching or eye pain. The primary acupuncture points for relaxing the frontalis muscle are TH 17, BL 2, GB 13, 14, 15, ST 8, Yu Yao.

### ***Temporalis***

The temporalis is a fan-shaped muscle that covers the side of the forehead. Its origin is along the temporal lines of the parietal bone and inserts at the coronoid process of the mandible. It is innervated by the trigeminal facial nerve, cranial nerve V, which originates from the pons of the midbrain exiting skull from foramen ovale of sphenoid bone approximately 1 cun anterior to GB 8. The antagonist muscle of the temporalis is the same muscle on the opposite side of the skull. The motor points associated with the temporalis is GB 8 and GB 21. Although not considered a muscle of expression, with the masseter muscle, the temporalis assists in side to side movement of opening and closing the jaw and mouth as in chewing. The classical TCM temporalis muscle disorders are facial paralysis headache, eye twitching or pain, jaw malfunction. The primary acupuncture points for the treatment of the temporalis are ST 4, 6, 7, 8, GB 4, 5, 6, 7, 8, 1 cun anterior to GB8, 9, 21.

### ***Orbicularis Oculi***

The orbicularis oculi is a large oval shaped muscle made of muscle fibers that travel in upward

and downward arcs to surround the margin of the eye socket. Its fixed end is to the bony nasal bridge of the frontal bone and maxilla. It inserts at the tissue of the cheek and outer corner of the eye. The upper portion of the orbicularis oculi runs through the skin of the eyelids and attaches to the bony eye orbit. The orbicularis oculi is innervated by cranial nerve V11. There are two motor points; extra point Qiu Hou located at the junction of the outer quarter and inner three-quarters of the infraorbital margin, an additional point located halfway between GB 1 and TH 23. The antagonistic muscle of the orbicularis oculi is the corrugator. When the orbicularis oculi contracts, it shortens, narrows, and closes the eyes and eyelid allowing it to blink, squint, and perform other movements to protect the eye. Additionally, the orbicularis oculi indirectly affects the cheeks and mouth. It bulges the cheeks, pulls on the corner of the mouth, and sometimes lowers the inner corners of the eyebrows. The orbicularis oculi, procerus, and corrugator muscles act as a unit to close the eyes and create the facial expression of squinting. Excessive use and tightening of the orbicularis oculi creates dimples over middle of eyebrow, wrinkling around the eyes, shallow diagonal wrinkles on the forehead, vertical wrinkles on surface of upper lid, and a deepening of the nasolabial fold between the nose and mouth. The classical TCM orbicularis oculi muscle disorders are headache, eye twitching or pain, stress. The primary acupuncture points are Qiu Hou, extra point located halfway between GB 1 and TH 23, TH 17, BL 1, 2, GB 1, 14, TH 23, Yu Yao, Tai Yang,

### ***Corrugator***

The corrugator is a fan shaped muscle located beneath the frontalis and between the orbicularis oculi. Its fibers originate on the bridge of the nose and insert into the skin under the lower middle of the eyebrow. It is innervated by cranial nerve VII. The corrugator motor point is located slightly lateral to UB 2. The corrugator's antagonistic muscle is the orbicularis oculi. When contracted, the corrugator causes vertical creases between the eyebrows known as the glabella frown lines. A second muscle of this region is the corrugator supercilii. This muscle draws the eyebrow downward and inward and also contributes to skin wrinkling of the forehead and around the eyes. The corrugator is the most expressive muscle and is used when thinking and to express sadness, anger, confusion, or when exhibiting any type of stress or distress. The corrugator is classically treated in the case of headaches, twitching and pain in the eyes or eyelids, and stress. The primary acupuncture points for the corrugator are TH 17, BL 2, GB 14, Yin Tang.

### ***Procerus***

The procerus is a fan shaped muscle that covers the nose. It is fixed on one end to the nasal bone and attached on the other end to the skin between the eyebrows. It is innervated by cranial nerve VII. Its antagonist muscle is the frontalis. The motor point associated with the procerus is extra point Yin Tang. When contracted, the procerus, together with the corrugator, pulls the eyebrows downward, together, and forward to create wrinkling across the bridge of the nose. Contraction of the procerus also closes the inner corner of the eyelid and socket and causes wrinkling over the bridge of the nose. The classical TCM procerus muscle disorders are headache, nasal obstruction, emotional stress, and strain around the eyes. The primary acupuncture treatment points are TH 17, BL 2, GB 14, and Yin Tang.

### ***Levator Palpebrae Superioris***

The levator palpebrae superioris is a small, broad muscle that attaches to the sphenoid bone of the eye orbit and inserts on the skin of the upper eyelid. An adjoining muscle, the superior tarsal

muscle is sometimes considered to be part of the levator palpebrae superioris. As with most of the muscles of the orbit, it is innervated by cranial nerve III and cranial nerve VII. Its motor point is extra point Yu Yao, located under the eyebrow, halfway between the brows, directly above the center of the eye. The levator palpebrae superioris lifts and closes the upper eyelid. When the levator palpebrae superioris relaxes, gravity pulls it down and it drops down over the eyeball. Known as the “intensity control”, it contracts when one is experiencing anger, surprise, and fear. The more vivid the feeling the stronger the contraction and the wider the eyes open. Damage to this muscle can cause ptosis, the drooping of the eyelid. The classical TCM levator palpebrae muscle disorder is eyelid ptosis. The primary acupuncture treatment points are BL 1, 2, and Yu Yao.

### ***Levator Labii Superioris***

The levator labii superioris (or quadratus labii superioris) is a broad sheet, consisting of three branches, all of which attach to the orbicularis oculi and insert into the orbicularis oris below the wing of nostril and nasolabial fold. It is innervated by cranial nerve VII. The two motor point locations are LI 19 and a point located halfway between LI 20 and St 2. The antagonistic muscle is the labii inferior inferioris. The levator labii superioris is the sneering muscle. Branches one and two of this muscle are voluntary and contract when experiencing unpleasant smells, when feeling angry, or when crying. When contracting it lifts and pulls back the upper lip, curls the nose, and causes wrinkling around the eyes. The third branch (sometimes referred to as the zygomatic minor) is an involuntary muscle and contracts when one feels sad. Contraction of this branch causes creasing in the cheek. Classical TCM indications for treating the levator labii superioris are facial paralysis, twitching of eyelids, facial pain, and pain in the upper teeth or gums. The primary treatment points are TH 17, ST 1, 2, 3, 4, halfway bet ST2-3, LI 19, 20.

### ***Zygomatic Major***

The zygomatic major is the thickest muscle in the face and runs deep beneath the surface of the cheek under the subsurface fat located approximately 1” from the skin surface. It originates at the zygomatic bone then inserts into the skin at the outer corner of the orbicularis oris. It is innervated by cranial nerve VII. The antagonistic muscles are depressor anguli oris and mentalis. The motor points are ST 7 and SI 18. When contracting, the zygomatic major draws the corner of the mouth back and up. It elevates the lips as in smiling and laughing. As the corners of mouth lift and move back toward the zygomatic bone, the bottom of this thick muscle burrows down to flatten and widen the face. The top of this muscle pushes upward and outward into the surface of the skin. As a result, the eyes, lips and angle of the mouth turn upward and outward and the cheeks wrinkle. The action of the zygomatic major is most obvious when smiling or laughing. The classic TCM indications for treating the zygomatic major are facial pain, twitching of the eyelid, facial pain, and toothache affecting the upper set of teeth. The primary acupuncture points are TH 17, CV 24, SI 18, ST4,7.

### ***Depressor Anguli Oris /Triangularis***

The depressor anguli oris is a triangular shaped muscle that surrounds the corner of the lower part of the lip. It originates at the mandible along the lower portion of the jaw then inserts at the skin at the corner of the mouth and lower lip. It is innervated by cranial nerve VII. There are three motor point locations, ST 4, below ST 4 on a line level with Ren 24, and Extra point Jia Cheng Jiang, located 1 cun lateral to Ren 24. The antagonist muscle is the zygomatic major. The depressor

anguli oris extends along the side of the chin and is designed to pull the bottom of the lower lip straight downward. When it contracts it pulls the lip toward the jaw. As it draws down it creates a small bulge at the corner of the mouth, pulls down the lower lip, and draws it a little to one side. The effect of this muscle is most obvious when expressing sarcasm, sadness, or when frowning. It also causes wrinkling around and above the lips. The depressor anguli oris muscle acts when the mouth is closed, and usually in conjunction with the mentalis. Classic indications for treating this muscle are facial paralysis, facial pain, lower lip pain, and toothache affecting lower set of teeth. The classic TCM indications for treatment are facial paralysis, pain in the lower lip, toothache in the lower jaw, excessive wrinkling of skin around the mouth. The primary acupuncture treatment points are TH 17, LI 19, ST 4, GV 26, CV 24, Jia Cheng Jiang.

### ***Mentalis***

The mentalis is an inverted triangular shaped muscle located between the bottom portion of the orbicularis oris and the center of the chin. It originates at the mandible in the depression below the teeth then attaches into the skin on the ball of the chin. It is innervated by cranial nerve VII. The motor point location is 0.5 cun lateral to Ren 24. The antagonist muscle is the zygomatic major. The mentalis covers the top of the chin and generally acts in concert with other muscles. When contracting it raises the lower lip, lifts the skin over the chin, pushes the lips together, lowers the corners of the mouth, and causes dimpling and wrinkling of the chin. This is often exhibited when experiencing doubt, displeasure, sadness, nervousness, or anger. The classic TCM conditions for treating this muscle are pain or numbness of the mouth or lower lip. The primary acupuncture points are TH 17, CV 23, 24, 0.5" lateral to CV 24, ST 4.

### ***Buccinator***

The buccinator is located in the cheek area between the upper and lower jaws. It originates at the hinge of the maxilla and mandible, and inserts into the orbicularis oris. It is innervated by cranial nerve VII. The antagonist muscle is the orbicularis oris. There are three motor points, SI 18, ST 4, and an additional point located halfway between SI 18 and ST 4. The buccinator squeezes the cheeks as in pouting, or when experiencing feelings of doubt or displeasure. It is sometimes called the trumpeter muscle because when it compresses the cheeks it expels air between the lips as in blowing or playing the trumpet. The buccinator is not considered a muscle of expression. Its action draws the corner of the mouth from side to side to hold food between the teeth for chewing. When chewing, it raises and pushes up the lower lip, moves food back and across the teeth, and holds it inside the cheeks. In doing so, the buccinator creates wrinkling across the chin and around the mouth. Classic TCM indications for treating the buccinator are facial paralysis, pain in the jaw, and wrinkling around the cheek and mouth. The primary acupuncture treatment points are SI 17, 18, ST 4, and halfway between ST 4 and SI 18.

### ***Masseter***

The masseter is a powerful muscle covering the side of the mandible and the cheek. The masseter originates at the zygomatic bone of the zygomatic arch, extends to the platysma, and inserts into the side of the mandible. It is innervated by cranial nerve V. There are two motor points ST 6, and extra point Qian Zheng, located slightly in front of ST 7 level with the earlobe. The antagonist muscles are the temporalis and buccinator. The masseter, although not a muscle of expression, lifts the mandible and assists in side to side movement of the jaw. With the temporalis, the masseter co-ordinates in the opening and closing of the mouth for biting and chewing. The classic

indications for the treatment of the masseter are facial paralysis, pain in the cheek and jaw, earache, tinnitus, and wrinkling of skin around the mouth. The primary acupuncture treatment points are TH 17, ST 4, 5, 6, Qian Zheng.

### ***Orbicularis Oris***

The orbicularis oris is a flat band of multiple layers of muscle fibers that encircles and surrounds the upper and lower lips to form the opening of the mouth. Unlike the other muscles of the face, there is no bony origin or attachment. It is suspended in place by muscles surrounding the mouth. It is innervated by cranial nerve VII. There are two motor points LI 19, and a point located halfway between a line joining ST 4, and Ren 24. Its antagonistic muscles are the zygomatic major, depressor labii inferioris, mentalis, and risorius. Since this muscle has no bone attachment, its fibers move in many different directions and can assume a variety of shapes. It stretches from the base of the nose to the corners of the mouth for eating, or when experiencing anger or grief. Referred to as the “kissing muscle,” the orbicularis oris compresses, contracts, puckers, and wrinkles the lips. It pushes the lips against the teeth when speaking. When in use, there is visible creasing in the chin under the lower lip and wrinkling above the lip. The classic TCM indications for the treatment of the orbicularis oris are deviation of mouth and lip pain. The primary acupuncture points are TH 17, LI 19, ST 4, GV 26, CV 24, halfway between CV 24 and ST 4.

### ***Risorius***

The risorius is a slender muscle near the zygomatic major. It originates in the fascia over the parotid gland located at the bend at the angle of the jaw. The risorius inserts into the muscular knot of the corner of the orbicularis oris at the same location as the zygomatic major and triangularis. It is innervated by cranial nerve VII. The motor point is ST 6. The antagonist muscles are depressor labii inferioris and orbicularis oris. When the risorius contracts, it pulls back the corner of the mouth. The signature wrinkle of the risorius is the elongated, downward bracket-like fold that appears between the corner of the mouth and the jaw. The strong action of the risorius is apparent when laughing, or grimacing. It is also visible when extremely angry or during a hard crying. The action of the risorius creates wrinkling of skin around the eyes and mouth. The classic TCM indications for treatment include facial paralysis, twitching of eyelids, facial pain, emotional stress, and wrinkling in the cheek, around the eyes and mouth. The primary acupuncture points are ST 4, 5, 6, 7, SI 18.

### ***Platysma***

The platysma is a thin, broad neck muscle that extends from the clavicle of the neck to the lower jaw. In some cases it may extend down past the collarbones onto the chest. It originates at the upper thoracic cage and inserts across the mandible and skin of the cheek. Fibers of the side portion run parallel and beneath the risorius and attach to the corner of the mouth. The platysma is innervated by cranial nerve XI. The motor point is ST 9. The antagonist muscles are the masseter and temporalis. When activated, the platysma tenses the neck, pulls the corner of the mouth backward, closes the mandible, moves the lip, and tightens the lower jaw and lip as when expressing sadness. Although the platysma is grouped with the neck muscles by location, it can be considered a muscle of facial expression due to its action and innervation with other muscles of expression. When tense the platysma creases the skin above the mental muscle and creates thin, vertical wrinkles in the neck. Classic indications for treating the platysma include neck, shoulder,

or jaw pain or paralysis, wrinkling in the lower portion of the face or neck. The primary acupuncture points are ST 4, CV 23, 0.5 cun lateral to CV 23, 24, 0.5 cun lateral to CV 24, GB 20, TH 17, ST 9-12, K 27.

### ***Sternocleidomastoid***

The sternocleidomastoid muscle is one of the largest superficial cervical muscles. It originates at the clavicle and chest bones and attaches to the temporal bone in the back of the ear. It is innervated by cervical nerve XI. The antagonist muscle is splenius capitus, the neck extension muscle located in the back of the head. Motor point locations vary from 20-70 degrees along the side and over the sternocleidomastoid. The sternocleidomastoid is not a muscle of expression. It rotates and bends the head as in nodding. It allows the head to move from side to side and bends the neck toward the shoulder. The classic TCM treatment of the sternocleidomastoid is neck and shoulder pain. The primary acupuncture points are GB 20, TH17, SI 17, K 27.

### **AGING MUSCLES**

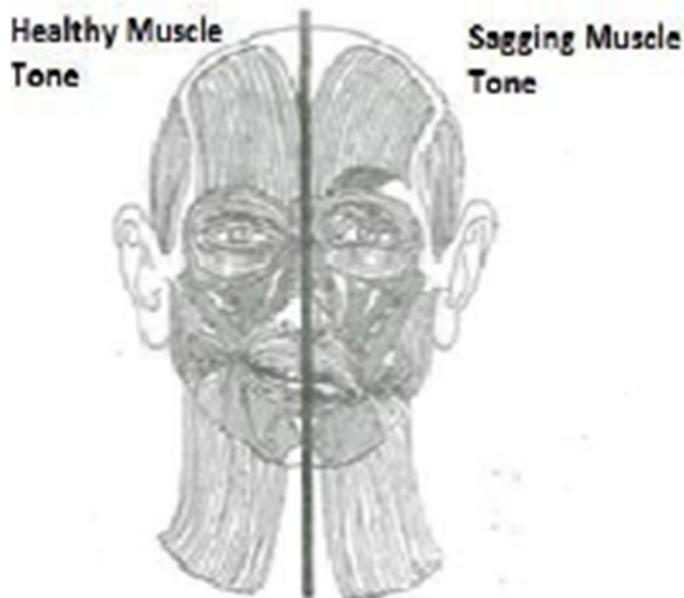
Continuous use of muscles on one side of the face over other muscles of the other side, whether it be due to chewing preferences, dental problems, or idiosyncrasies such as sleeping on the same side of the body can lead to facial asymmetry. Excessive activity of certain muscles due to habitual expressions and gestures cause some muscles to shorten. Brow furrowing causes shortening (and wrinkling) in and between the corrugators, across the frontalis and procerus, and above the upper portion of the orbicularis oculi. Eye squinting from strong sunlight can cause creasing (and wrinkling) along the outer rim of the orbicularis oculi, temporalis, and the insertion end of the zygomatic major. Jaw clenching (bruxism) affects the temporalis, masseter, and other muscles of mastication. Due to the synergistic effect of muscle activity, the shortening of one muscle or group of muscles and elongation of another.

With aging, the following changes can be seen:

- Frontalis and corrugator muscles shorten causing wrinkling across the forehead and between the eyebrows
- Orbicularis oculi loses symmetry causing wrinkling around the eyes
- Levator palpebrae loses muscle tone causing sagging (ptosis) of the eyelids
- Muscles of the cheeks elongate causing cheek sagging
- Orbicularis oris loses symmetry causing wrinkling above and below the mouth
- Changes in the muscles surrounding the orbicularis oris cause the corners of the mouth to turn downward
- Changes in the muscles surrounding the mouth and neck create loss of definition of the jawline and appearance of the jowls
- Mentalis muscle shorten and causes the tip of the chin to tilt upward
- Platysma muscle shorten and pulls the face muscles below the lower lip.
- As the platysma shortens it causes loss of definition and wrinkling of the neck

In the diagram below, the 'Normal Muscle Tone' side illustrates a youthful face – strong muscle tone around the eyes and mouth, and in the cheeks. The muscles of the forehead and neck are elongated and relaxed. The 'Sagging Muscle Tone' represents an aging face. The muscles around the eyes and mouth are asymmetrical, the cheek muscles hyper-elongated.

The muscles across the forehead, along the neck, and below the lips shorten.



## WRINKLES

The appearance of lines and wrinkles in the skin generally occurs between the ages of thirty to sixty. Although wrinkle development is influenced by excessive sun exposure, age, gender, and weight, it is most affected by repetitive muscle activity. Whether caused by expressive, conversational, or functional use, the muscles engaged are the same. With the passage of time, facial wrinkling, caused by muscle contraction, becomes more permanent.

The most common wrinkle patterns and effective facial treatment acupuncture points to address them are as follows:

- *Brow Wrinkles*: Horizontal folds owing to the frontalis. ST 8, GB 13-15, Yin Tang, LV 2, 3, GB 43, 41, 34.
- *Glabella Creases*: Vertical folds between the eyebrows owing to the action of the corrugator. BL2, 3, GB 14, Yin Tang, K 3, BL 60, 40, GV 23.
- *Crow's Feet*: Lines radiating from the corners of the eyes, owing to the action of the orbicularis oculi and zygomatic major. TH 17, GB 1, 2, horizontal and vertical into the creases. LV 2, 3, GB 43, 41 (creasing on the side of the forehead), K 3, BL 60, 40 (creasing in the center of the forehead).
- *Nasolabial Fold*: Crease from the nose to the side of the mouth corner, created by sneering muscle and zygomatic major. ST 4, LI 19, 20, SI 18, GB 2, SP 3, ST 44, 36.
- *Upper Lip Creases*: Vertical lines formed by the action of the orbicularis oris. CV 24, GV 26, LI 19, 20. SP 3, ST 44, 36.
- *Commissural fold*: Crease from the corner of the mouth to the corner of the jaw. Results from actions that widen the mouth: speaking, smiling, and eating. ST 4, 5, 6, 7, SI 18, CV 23, 24.

## SUMMARY

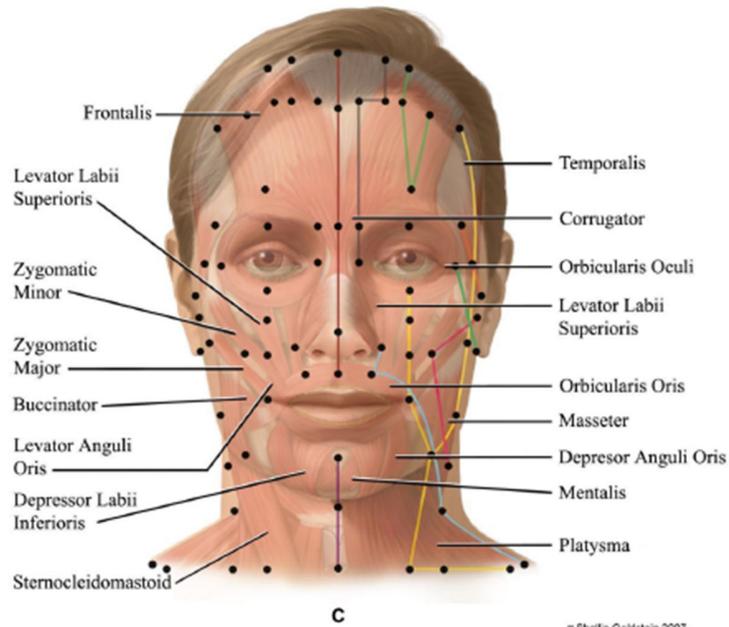
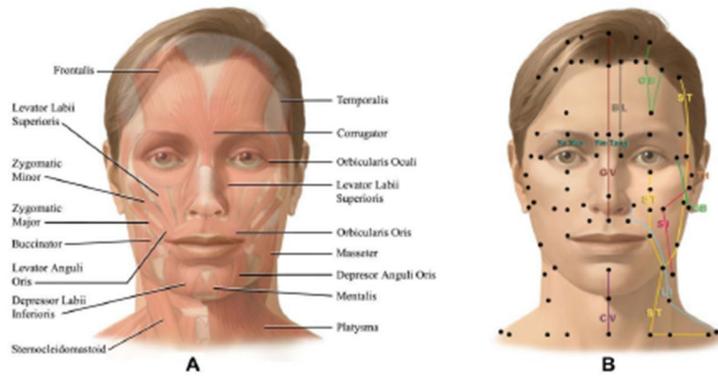
The study of the structure, function, and diseases of muscles is referred to as myology. As facial

muscles change over time so do the visible signs of aging. This of course is not an overnight event but a gradual occurrence over a time period of years. While the sequence of changes are somewhat uniform, the rate at which they occur can be quite individual. CFA is an effective treatment for restoring face muscle integrity and function.

### **REFERENCE MATERIAL**

The following pages include charts and handy reference material to print and use when practicing cosmetic acupuncture.

## **MUSCLE-MERIDIAN CHART**



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## Muscle Reference Chart

Muscle	Origin	Insertion	Antagonist	Action	Results	TCM Tx	Tx Points
Frontalis	Galea Aponeurotica	Skin under the eyebrows	Orbicularis Oculi  Corrugator	Lifts eyebrows and draws scalp forward	Horizontal creasing across the forehead	Relax Frontalis and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• TH17</li> <li>• BL2</li> <li>• GB13, 14*, 15</li> <li>• ST8</li> <li>• Yu Yao</li> </ul>
Temporalis	Temporal lines of the parietal bone	Coronoid process of the Mandible	Temporalis on opposing side	Side-to-side movement of opening and closing the jaw and mouth	Difficulty chewing	With Masseter, and harmonize Temporalis	<ul style="list-style-type: none"> <li>• ST4, 6, 7, 8</li> <li>• GB4, 5, 6, 7, 8*, 1 cun anterior to GB8, 9, 21*</li> </ul>
Orbicularis Oculi	Bony nasal bridge of the Frontal and Maxilla Bones	Tissue of the cheek and outer corner of the eye	Corrugator	Shortens, narrows, and closes the eyes and eyelid allowing them to blink, squint, and perform other movements to protect the eye, bulges cheeks, pulls on the corner of the mouth, and lowers the inner corner of the eyebrows	Dimples over middle of eyebrow, wrinkling around the eyes, shallow diagonal wrinkles on the forehead, vertical wrinkles on surface of upper lid, deepening of the nasolabial fold	Relax Orbicularis Oris and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• Qiu Hou*</li> <li>• TH17,23</li> <li>• BL1,2,</li> <li>• GB1,14</li> <li>• Yu Yao</li> <li>• Tai Yang</li> </ul>
Corrugator	Bridge of the nose	Lower middle of the eyebrow	Orbicularis Oculi	Draws the eyebrows downward and inward	Vertical creases between the eyebrows	Relax Corrugator and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• TH17</li> <li>• BL2*</li> <li>• GB14</li> <li>• Yin Tang</li> </ul>
Procerus	Nasal bone between	The skin between the eyebrows	Frontalis	Pulls the eyebrows downward, together and forward; closes the inner corner of the eyelid and socket	Wrinkling between the eyebrows and across the bridge of the nose	Relax Corrugator and Procerus and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• TH17</li> <li>• BL2</li> <li>• GB14</li> <li>• Yin Tang*</li> </ul>
Levator Palpebrae Superioris	Sphenoid Bone	Upper eyelid	Orbicularis Oculi	Lifts and closes the upper eyelid	Eyelid ptosis	Strengthen and tone Levator Palpebrae Superioris, relax Orbicularis Oculi	<ul style="list-style-type: none"> <li>• BL1, 2</li> <li>• Yu Yao*</li> </ul>

Levator Labii Superioris <i>Branch One</i>	Orbicularis Oculi at upper side of the nose, across the nasal bridge	Skin around Orbicularis Oris at upper side of the nose, along the nasal bridge	Labii Inferior Inferioris	Lifts and pulls back the upper lip	Eye squinting, creasing around the outside of the eyes, lower lid folds	Strengthen the Levator Labii Superioris and relax the Labii Inferior Inferioris	<ul style="list-style-type: none"> <li>• TH17</li> <li>• ST1, 2, 3, 4</li> <li>• midway between ST2-3*</li> <li>• LI19,20</li> </ul>
Levator Labii Superioris <i>Branch Two</i>	Orbicularis Oculi at upper side of the nose, along the nasal bridge	Skin around Orbicularis Oris	Labii Inferior Inferioris	Pulls the wings of the nose upward, and the tip of the nose down	Creasing in the eye socket	Strengthen the Levator Labii Superioris and relax the Labii Inferior Inferioris	<ul style="list-style-type: none"> <li>• TH17</li> <li>• ST1, 2, 3, 4</li> <li>• midway between ST2-3*</li> <li>• LI19,20</li> </ul>
Levator Labii Superioris <i>Branch Three (Zygomatic minor)</i>	Zygomatic bone	Skin at the angle of the Orbicularis Oris	Labii Inferior Inferioris	Pulls and stretches the outer corners of the mouth	Creasing in the middle of the cheek, around the mouth and eyes	Strengthen Levator Labii Superioris and relax the Labii Inferior Inferioris	<ul style="list-style-type: none"> <li>• TH17</li> <li>• ST1 ,2,3,4</li> <li>• midway between ST2-3*</li> <li>• LI19,20</li> </ul>
Zygomatic Major	Zygomatic bone	Skin at the angle of Orbicularis Oris	Depressor Anguli Oris Mentalis	Draws the corner of the mouth back and up	Same as above	Harmonize Zygomatic Major, relax Depressor Anguli Oris and Mentalis	<ul style="list-style-type: none"> <li>• TH17</li> <li>• CV24</li> <li>• SI18*</li> <li>• ST4, 7</li> </ul>
Depressor Anguli Oris/ Triangularis	Mandible, along the lower portion the jaw	Skin at the corner of the mouth and lower lip	Zygomatic major	Pull bottom of lower lip straight down	Wrinkling around and above the lips	Relax Depressor Anguli Oris, Mentalis, Platysma	<ul style="list-style-type: none"> <li>• TH17</li> <li>• LI19</li> <li>• ST4</li> <li>• GV26</li> <li>• CV24,</li> <li>• Jia Cheng Jiang*</li> </ul>
Mentalis	Mandible, in the depression below the teeth	Skin on the ball of the chin	Zygomatic Major	Raises the lower lip, lifts the skin over the chin, pushes lips together, lowers the corners of the mouth	Dimpling and wrinkling of the chin	Relax Mentali, Depressor Labii Inferioris, Platysma	<ul style="list-style-type: none"> <li>the mouth</li> <li>• TH17</li> <li>• CV23,24</li> <li>• 0.5" lateral to CV 24*</li> <li>• ST4</li> </ul>

Buccinator	Maxilla and Mandible	Orbicularis Oris	Orbicularis Oris	Compresses the cheeks and expels air between the lips	Wrinkling across the chin and Around the mouth	Tone Buccinator and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• SI17, 18*</li> <li>• ST4*</li> <li>• midway between ST4 and SI18*</li> </ul>
Masseter	Zygomatic bone of the Zygomatic arch	Lateral surface of the Mandible	Temporalis, Buccinator of the	Lifts the Mandible and assists in side-to-side movement	Wrinkling of the skin around the mouth	Balance Masseter and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• TH17</li> <li>• ST4, 5, 6*</li> <li>• Qiang Zheng*</li> </ul>
Orbicularis Oris	Muscles near the mouth opening	Skin at the corner of the mouth	Zygomatic Major, Depressor Labii Inferioris, Mentalis, Risorius	Compresses, contracts, puckers, and protrudes and compresses the lips against the teeth when speaking	Creases the chin under the lower lip and causes wrinkles above and below the lip	Relax the Orbicularis Oris and harmonize all surrounding muscles	<ul style="list-style-type: none"> <li>• SI17</li> <li>• LI19*</li> <li>• ST4</li> <li>• GV26</li> <li>• CV24</li> <li>• midpoint of CV24 and ST4*</li> </ul>
Risorius	Fascia over the parotid gland	Muscular knot of the corner of the mouth	Depressor Labii Inferioris, Orbicularis Oris	Pulls back the corner of the mouth	Wrinkling of the skin between the eyes and the mouth	Tone Risorius and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• ST4, 5, 6*, 7</li> <li>• SI18</li> </ul>
Platysma	Upper thoracic cage	Mandible and skin of the cheek	Depressor Labii, Inferioris Orbicularis Oris	Tenses the neck, pulls the corner of the mouth backward, closes the mandible, moves the lip, and tightens the lower jaw and lip	Creases the skin above the mental muscle and creates thin, vertical wrinkles in the neck	Relax Platysma and harmonize surrounding muscles	<ul style="list-style-type: none"> <li>• ST4, 9*, 10, 11, 12</li> <li>• CV23, 24</li> <li>• 0.5 cun lateral to CV23</li> <li>• 0.5 cun lateral to CV24</li> <li>• GB20</li> <li>• TH17</li> <li>• K27</li> </ul>
Sternocleidomastoid	Clavicle collar and chest bones	Temporal bone in back of the ear	Splenius Capitus	Rotates and bends the head and neck	Skin wrinkling of the neck	Relax Sternocleidomastoid	<ul style="list-style-type: none"> <li>• GB20</li> <li>• TH 16, 17</li> <li>• SI 16,17 K27</li> </ul>

\* Motor Points

## Point Location (7)

### Large Intestine

*LI1- Shangyang-* On the radial side of the index finger, about 0.1 cun posterior to the corner of the nail

*LI18- Futu-* On the lateral side of the neck, level with the tip of the Adam's apple, between the sternal head and clavicular head of the sternocleidomastoid

*LI19- Heliao-* Right below the lateral margin of the nostril, level with DU26

*LI20- Yingxiang-* In the nasolabial groove, at the level of the midpoint of the lateral border of the ala nasi

### Stomach

*ST2- Sibai-* Directly below the pupil, in the depression at the infraorbital foramen

*ST3- Juliao-* Directly below the pupil, at the level of the lower border of the ala nasi, on the lateral side of the nasolabial groove

*ST4- Dicang-* Lateral to the corner of the mouth, directly below the pupil

*ST5- Daying-* Anterior to the angle of the mandible, on the anterior border of the attached portion of the masseter, where the pulsation of the facial artery is palpable, in the groove-like depression appearing when the cheek is bulged

*ST6- Jiache-* One finger-breadth anterior and superior to the lower angle of the mandible where the masseter is prominent when the teeth are clenched and depressive when it is pressed

*ST7- Xiaguan-* On the face, anterior to the ear, in the depression between the zygomatic arch and the mandibular notch. This point is located with the mouth closed.

*ST8- Touwei-* On the lateral side of the head, 0.5 cun above the anterior hairline at the corner of the forehead, and 4.5 cun lateral to the midline of the head

*ST9- Renying-* Level with the tip of the Adam's apple, where the pulsation of the common carotid artery is palpable, on the anterior border of the sternocleidomastoid

*ST10- Shuitu-* At the midpoint of the line joining ST9 and ST11, on the anterior border of the sternocleidomastoid

*ST11- Qishe-* At the superior border of the sternal extremity of the clavicle, between the sternal head and the clavicular head of the sternocleidomastoid

*ST12- Quepen-* In the midpoint of the supraclavicular fossa, 4 cun lateral to the anterior midline

*ST36- Zusanli-* 3 cun below ST35, one finger-breadth from the anterior border of the tibia

*ST44- Neiting-* Proximal to the web margin between the second and third toes, in the depression distal and lateral to the second metatarsophalangeal joint

### Spleen

*SP3- Taibai-* Proximal and inferior to the first metatarsophalangeal joint, in the depression of the junction of the red and white skin

### Small Intestine

*SI1- Zhi Zheng-* On the line joining SI5 and SI8, 5 cun proximal to the dorsal crease of the wrist

*SI8- Xiao Hai-* When the elbow is flexed, the point is located in the depression between the olecranon of the ulna and the medial epicondyle of the humerus

*SI17- Tianrong-* In the depression between the angle of the mandible and the anterior border of the sternocleidomastoid

## **Urinary Bladder**

*BL1- Jingming-* In the depression slightly above the inner canthus

*BL2- Zanzhu-* On the medial extremity of the eyebrow, or on the supraorbital notch

*BL3- Meichong-* Above BL2, 0.5 cun within the anterior hairline, between DU24 and BL4

*BL23- Shenshu-* 1.5 cun lateral to DU4, at the level of the lower border of the spinous process of the second lumbar vertebra

*BL40- Weizhong-* Midpoint of the transverse crease of the popliteal fossa, between the tendons of the biceps femoris and the semitendinosus

*BL60- Kunlun-* In the depression between the tip of the external malleolus and the Achilles tendon

## **Kidney**

*KD3- Taixi-* In the depression between the tip of the medial malleolus and Achilles tendon

*KD27- Shufu-* In the depression in the lower border of the clavicle, 2 cun lateral to the anterior midline

## **San Jiao/Triple Heater**

*TH17- Yifeng-* Posterior to the lobule of the ear, in the depression between the mandible and mastoid process

*TH23- Sizhukong-* In the depression at the lateral end of the eyebrow

## **Gall Bladder**

*GB1- Tongziliao-* 0.5 cun lateral to the outer canthus, in the depression on the lateral side of the orbit

*GB2- Tinghui-* Anterior to the intertragic notch, at the posterior border of the condyloid process of the mandible. The point located with the mouth open.

*GB4- Hanyan-* Within the hairline of the temporal region, at the junction of the upper 1/4 and lower 3/4 region of the distance between ST8 and GB7

*GB5- Xuanlu-* Within the hairline of the temporal region, midway of the border line connecting ST8 and GB7

*GB6- Xuanli-* Within the hairline, at the junction of the lower 1/4 and 3/4 of the distance between ST8 and GB7

*GB7- Qubin-* On the head, at a crossing point of the vertical posterior border of the temple and horizontal line through the ear apex

*GB8- Shuaigu-* Superior to the apex of the auricle, 1.5 cun within the hairline

*GB9- Tianchong-* Directly above the posterior border of the auricle, 2 cun within the hairline, about 0.5 cun posterior to GB8

*GB13- Benshen-* 0.5 cun within the hairline of the forehead, 3 cun lateral to DU24

*GB14- Yangbai-* On the forehead, directly above the pupil, 1 cun directly above the midpoint of the eyebrow

*GB15- Toulinqi-* On the head, directly above the pupil and 0.5 cun above the anterior hairline, at the midpoint of the line connecting DU24 and ST8

*GB20- Fengchi-* In the depression between the upper portion of the sternocleidomastoid and the trapezius, on the same level with DU16

*GB21- Jianjing-* On the shoulder, directly above the nipple, at the midpoint of the line connecting DU 14 and the acromion, at the highest point of the shoulder

*GB34- Yanglingquan-* In the depression anterior and inferior to the head of the fibula

*GB41- Zulingqi-* Posterior to the fourth metatarsophalangeal joint, in the depression lateral to the tendon of the extensor digiti minimi of the foot

*GB43- Xiaxi-* On the dorsum of the foot, between the fourth and the fifth toe, proximal to the margin of the web, at the junction of the red and white skin

### **Liver**

*LV2- Xingjian-* On the dorsum of the foot between the first and second toe, proximal to the margin of the web at the junction of the red and white skin

*LV3- Taichong-* On the dorsum of the foot, in the depression distal to the junction of the first and second metatarsal bones

### **Ren/Conception Vessel**

*CV23- Lianquan-* Above the Adam's apple, in the depression of the upper border of the hyoid bone

*CV24- Chengjiang-* In the depression in the center of the mentolabial groove

### **Du/Governing Vessel**

*GV23- Shangxing-* 1 cun directly above the midpoint of the anterior hairline

*GV26- Renzhong-* At the junction of the upper third and middle third of the philtrum

### **Extra Points**

*Yintang-* Midway between the medial ends of the two eyebrows

*Yuyao-* At the midpoint of the eyebrow, directly above the pupil

*Taiyang-* In the depression about one finger breadth posterior to the midpoint between the lateral end of the eyebrow and the outer canthus

*Qiuhou-* At the junction of the lateral 1/4 and the medial 3/4 of the infraorbital margin

*Jiachengjiang-* 1 cun lateral to CV24

*Qianzheng-* 0.5-1.0 cun anterior to the auricular lobe

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