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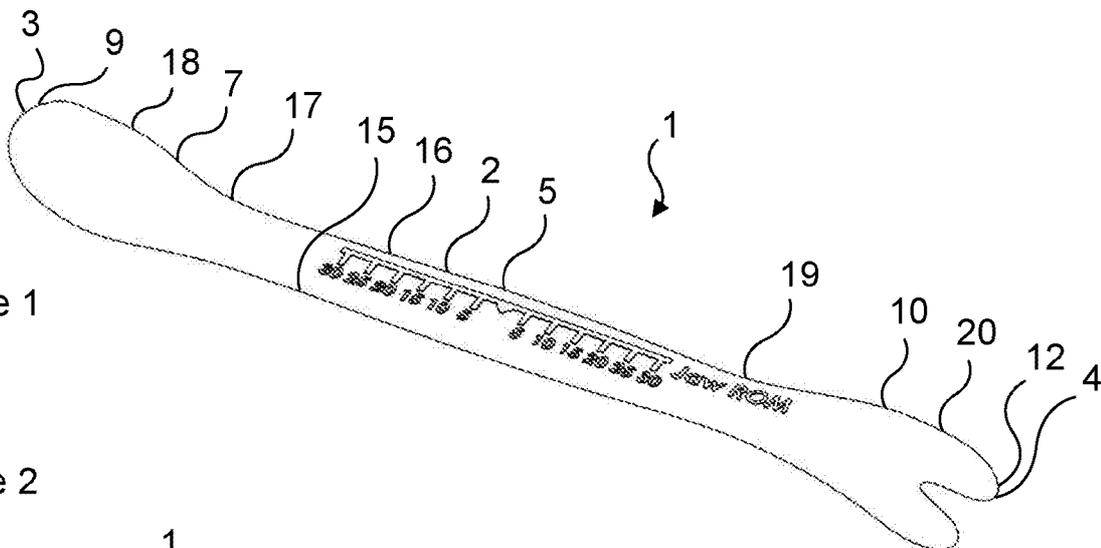


Figure 1

Figure 2

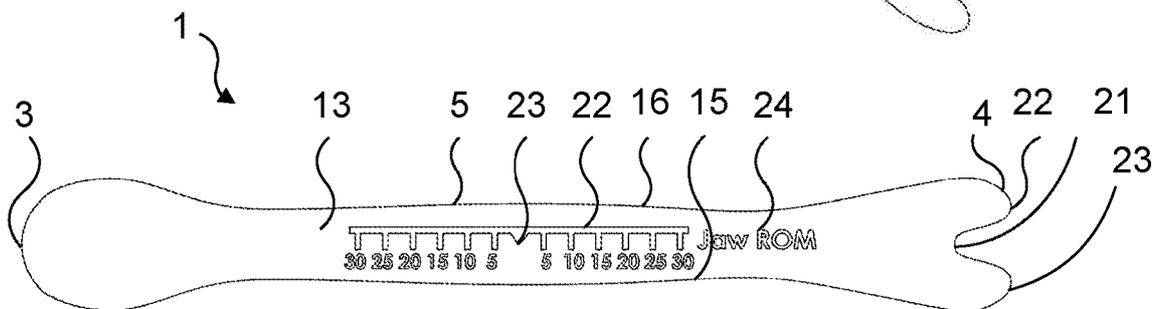


Figure 3

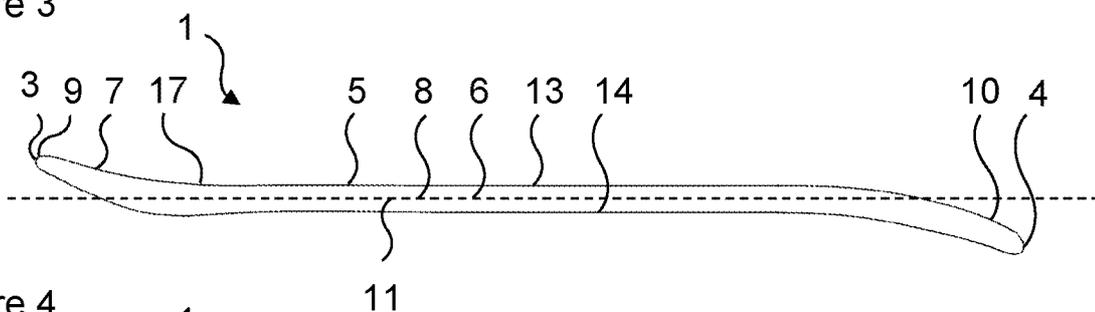


Figure 4

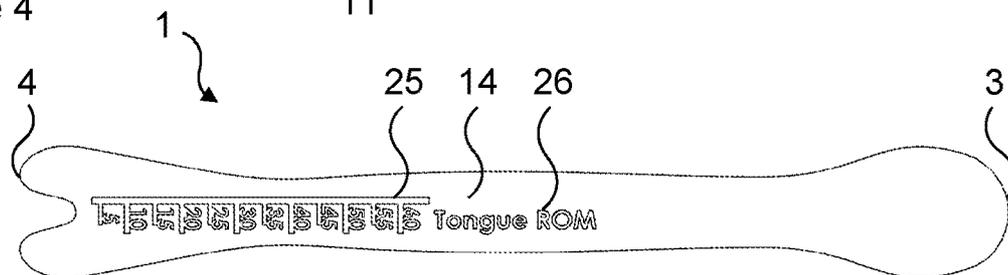
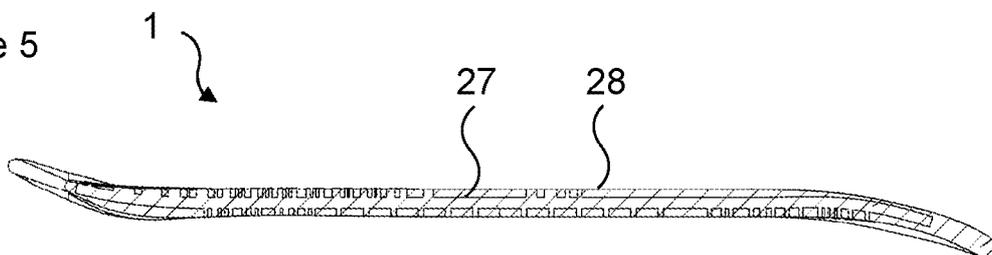


Figure 5



25 11 21

Tool For Treating Orofacial Myofunctional Disorders

The present invention relates to a tool for treating orofacial myofunctional disorders, for use particularly, but not exclusively to treat orofacial fascia restrictions.

Orofacial myofunctional disorders (OMDs) affect the tissues of the mouth, face, neck and jaw, and involve abnormal resting posture of the orofacial musculature, atypical chewing and swallowing patterns, dental malocclusions, blocked nasal airways and speech problems. Symptomatic of OMDs is tension in the connective tissues which leads to restrictions in movement of the face, tongue, jaw and neck. This can be treated with physiotherapy which releases tension in the orofacial complex, and facilitates mobility and general function of the affected muscles. Some clinicians may use Botox (RTM) to release tension in the face and temporomandibular joint muscle, but this is only ever a temporary fix.

The main problem is that such treatments can only be provided by a professional who is trained in the provision of such therapy, such as a physiotherapist, osteopath, chiropractor, acupuncturist or clinical massage therapist. This requires the subject to make a suitable appointment and to travel to a place where the treatment can be delivered. Another issue is that often the treatment required in a particular case crosses over between medical disciplines, so those affected would have to see several practitioners to achieve the required results. Furthermore, not all practitioners are trained to release facial tension both intra-orally and extra-orally, and in the tongue. This means the required treatment is not provided.

There are also problems associated with using the fingers to apply a physical treatment in the known way. Firstly OMDs often affect small children, and the application of manual therapy to the face using the fingers both intra-orally and extra-orally is problematic due to the physical size of an adult practitioner's fingers. Both children and adults can also have a strong gag reflex which can make it difficult to receive treatment applied intra-orally using the fingers. Furthermore, a practitioner's finger tips are limited in what they can achieve due to their rounded shape and compressibility.

Finally, there is no recognised way to measure the effect of known treatments, so it is difficult to assess the effectiveness of any given treatment.

The present invention is intended to overcome some of the above described problems.

Therefore, according to a first aspect of the present invention a tool for treating orofacial myofunctional disorders comprises an elongate body comprising a rounded first end and a bifurcated second end, the body comprising a central handle section, a first end section having the rounded first end at an outer end thereof, and a second end section having the bifurcated second end at an outer end thereof, in which each of the first and second end sections increases in width from an inner end thereof to a fullest transverse point thereof and then decreases in width from the fullest transverse point to the outer end thereof.

Thus, in its most basic form the tool of the present invention provides for two different treatment types to be applied, one via the rounded first end and one via the bifurcated second end. This allows for two particular kinds of physiotherapy treatment to be applied without the use of the fingers. In particular, the rounded first end finds particular application with releasing the digastric muscle, the sublingual wall muscles, the muscles around the zygoma, the medial pterygoid muscle and the suboccipital triangle muscles. It can also be used to provide a support for the tongue when the subject is asked to measure how far the tongue can extend.

The bifurcated second end finds particular application with releasing the buccinator muscles, the orbicularis oris muscle and the sublingual frenulum muscles. It can also be used extra-orally to address temporomandibular joint disorders by releasing tension in the forehead, eyebrows, under the eyes and in the temporals. It can also release tension in the masseter and buccinator extra-orally, and release any tension in the sternocleidomastoid. Furthermore, the bifurcated second end also allows the tool to be conveniently placed in particular positions in the mouth, for example against the frenulum, with the two prongs thereof on either side. This allows certain treatments to be administered, as well a certain measurements to be taken, as explained in more detail below.

The tool works by being moved over the treatment area to release muscular tension. With a gentle application force of 100g - 122g (0.9 – 1.2n) the tool is moved over the treatment area either cross-fibre or fibre directional, in order to activate fascia release.

A principal benefit of the tool of the invention is that it can be used by the subject at home to self-treat, following initial guidance from a trained practitioner. This avoids the need to travel to see one or more medical practitioners to obtain treatment. Medical grade materials can be used so the tool can be repetitively used in the oral cavity and extra-orally and can be easy to clean.

Another advantage is that the tool can be dimensioned such that it can reach fibres in the mouth which are not easily accessible by a treatment professional using their fingers. The tool can provide the extra reach and eliminate stress from having hands that are too

large in the mouth. Compared to the use of the hands the tool also reduces discomfort for the subject generally, reduces the activation of gag reflexes, and is less intrusive.

The central handle section can extend in a plane, with the first end section extending away from a first side of the plane, and the second end section extending away from a second side of the plane. This three dimensional shape facilitates ease of use for the user, as they can grasp the central handle section in their hand, and then apply either end to the treatment area. The angular difference between the central handle section and the end being used to apply treatment allows areas inside the mouth to be reached more easily, and for beneficial leverage to be applied by the user. Furthermore, the fact that the end not being used is angled away from the plane in the opposite direction conveniently positions it away from the area being treated. The user can also employ the end not being used to better grasp the tool, for instance by placing the end not being used in the palm of their hand, so as to more easily apply pressure.

The first end section can extend away from the first side of the plane at an angle of approximately 25 degrees, and the second end section can extend away from the second side of the plane at an angle of approximately 18 degrees. It has been found that these angles are most convenient for the application of treatment.

The body can comprise a first surface on the first side of the plane and a second surface on the second side of the plane. The first surface and the second surface can transition from the central handle section to the first end section along smooth lines of curvature. Likewise the first surface and the second surface can transition from the central handle section to the second end section along smooth lines of curvature. This construction prevents there being any edges or angles which could cause injury in use to either the user or the subject. Having smooth shapes like this also avoids the build-up of material on the tool and allows for easy cleaning.

06 03 23

The first rounded end is as wide as the fullest transverse point of the first end section, which is wider than the central handle section. This increases its treatment application potential, as a broad rounded shape is provided, which also extends around the entire first end section down to the inner end thereof. As such, the user can position the first rounded end at a large number of angles in relation to the treatment area, which is of particular benefit when treating the subject intra-orally, as the central handle section can only enter the user's mouth at a limited number of angles.

The bifurcated second end can have any bifurcated shape suitable for applying physiotherapy treatment to muscles, but preferably the second end can comprises an axially extending indentation such that the bifurcated second end comprises a pair of spaced apart rounded prongs. Such rounded prong shapes are suitable for providing the kinds of treatments described above, and their rounded smooth shape prevents there being any edges or angles which could cause injury in use to either the user or the subject. Having smooth shapes like this also avoids the build-up of material on the tool and allows for easy cleaning.

The indentation can also have a rounded shape, and this is suitable for particular measuring techniques described further below.

The first end section can taper between the first surface and the second surface from the inner end to the outer end. This feature allows the rounded first end to have a shallower depth than the central handle section, which is beneficial for the provision of treatment.

The tool of the invention can simply be used to apply physiotherapy muscle release treatment to the subject, but it can also have dual treatment and measurement functions. Namely, in a preferred embodiment the body can comprise a first surface which can carry indicia forming a first measuring scale which extends from a zero value at a centre point equidistant from the first end and the second end, to a predetermined first value located closer to the first end than the centre point. The first measuring scale can also extend from

06 03 23

the zero value to a predetermined second value located closer to the second end than the centre point.

In addition the body can comprise a second surface which can carry indicia forming a second measuring scale which can extend from a zero value located adjacent to the second end to a predetermined third value located closer to the first end than the zero value.

Measurement scales like this on the tool assist in documenting the subject's progress with regard to improved tongue movement and forward protrusion, as well as jaw opening and side to side movement. In particular, there are five key measurements which can be taken in order to track the subject's progress as the treatment is provided over time.

The first measurement is how far the subject can exercise their jaw to open their mouth with their tongue in a relaxed position. The indentation of the bifurcated second end is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale for the position of the top teeth.

The second measurement is how far the subject can exercise their jaw to open their mouth with their tongue pressed against the roof of the mouth behind the top teeth, as if making an "n" sound. The indentation of the bifurcated second end is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale for the position of the top teeth.

The third measurement is how far the subject can exercise their jaw to open their mouth with their tongue in a suction hold against the roof of the mouth, as if immediately prior to making a clicking sound with the tongue. The indentation of the bifurcated second end is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale for the position of the top teeth.

The fourth measurement is how far the subject's tongue can project. The tool is arranged with the lower surface uppermost, and the indentation is placed under the tongue in front of the frenulum. The subject then extends their tongue and a measurement is taken on the second measuring scale for the position of the tip of the tongue.

06 03 23

The fifth measurement is how far the subject can move their jaw from a neutral position to the left and to the right. The tool is placed in front of the subject's face with the zero value of the first measuring scale aligned with the gap between the subject's two front teeth. The subject then moves their jaw as far to the left as they can, and a measurement is taken on the corresponding side of the first measuring scale. They then move their jaw as far to the right as they can, and a further measurement is taken on the other side of the first measuring scale.

The first and second measuring scales do not provide for single meaningful measurements to be taken, as the distances in question will vary depending on the physical nature of the subject. However, they do provide for meaningful measurements of change over time to be taken. This can be prior to and after treatment, or after treatments administered over days or weeks.

The tool can be manufactured from any material suitable to be placed in the mouth. However, in a preferred construction the tool comprises a solid core and a resilient outer layer surrounding the solid core. The solid core can be made from metal, or from a rigid plastics material. The outer layer can be made from medical grade silicone. With this construction the rounded first end and the bifurcated second end each comprise particular resilient properties dependent on the type of material used for the outer layer and its depth relative to the solid core at each end. This can be determined by the person skilled in the art using their common general knowledge in order to achieve the most beneficial treatment properties.

The tool can be dimensioned to suit the size of the subject. For example, it can be dimensioned to suit an average adult, an average child or an average infant. The sizing can be determined by the skilled person using their common general knowledge of the human form, in order to achieve the most beneficial treatment properties.

As one size of tool is only suitable for subjects of a certain size, according to a second aspect of the present invention a kit of parts for treating orofacial myofunctional disorders comprises a plurality of tools, each comprising an elongate body comprising a rounded first end and a bifurcated second end, and in which each of said plurality of tools comprises substantially the same three dimensional shape as the others, but different aspect ratio dimensions.

Preferably three tools are provided, one for adults, one for children and one for infants. In one construction the largest of the tools can be coloured blue, the second largest can be coloured red and the smallest can be coloured yellow. As such, a practitioner can own all three, and can readily select the appropriate tool for use with a particular subject. This avoids the use of a tool which may be too large or too small for the subject.

The present invention can be performed in various ways but one embodiment will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a tool according to the present invention;

Figure 2 is a top view of the tool shown in Figure 1;

Figure 3 is left side view of the tool shown in Figure 1;

Figure 4 is a bottom view of the tool shown in Figure 1; and

Figure 5 is a cross-sectional left side view of the tool shown in Figure 1.

As shown in Figure 1 a tool for treating orofacial myofunctional disorders 1 comprises an elongate body 2 comprising a rounded first end 3 and a bifurcated second end 4.

The body 2 comprises a central handle section 5 extending in a plane 6 (shown in Figure 3), a first end section 7 extending away from a first side 8 of the plane 6 and comprising the rounded first end 3 at an outer end thereof 9, and a second end section 10 extending away from a second side 11 of the plane 6 and comprising the bifurcated second end 4 at an outer end 12 thereof. The first end section 7 extends away from the first side 8 of the plane 6 at an angle of 25 degrees, and the second end section 10 extends away from the second side 11 of the plane 6 at an angle of 18 degrees.

The body 2 comprises an upper surface 13 on the first side 8 of the plane 6 and a lower surface 14 on the second side 11 of the plane 6. As is clear from Figure 3, the upper surface 13 and the lower surface 14 transition from the central handle section 5 to the first end section 7 along smooth lines of curvature. Likewise the upper surface 13 and the lower surface 14 transition from the central handle section 5 to the second end section 10 along smooth lines of curvature.

The body 2 comprises a left side 15 extending through the plane 6 from the upper surface 13 to the lower surface 14 and from the first end 3 to the second end 4. The body 2 also comprises a right side 16 extending through the plane 6 from the upper surface 13 to the lower surface 14 and from the first end 3 to the second end 4. Referring to Figure 1, the first end section 7 increases in width between the left side 15 and the right side 16 from an inner end 17 thereof to a fullest transverse point 18 thereof, and then decreases in width from the fullest transverse point 18 to the outer end 9 thereof. The second end section 10 also increases in width between the left side 15 and the right side 16 from an inner end 19 thereof to a fullest transverse point 20 thereof, and then decreases in width from the fullest transverse point 20 to the outer end 12 thereof.

The bifurcated second end 4 comprises an axially extending indentation 21 such that the bifurcated second end 4 comprises a pair of spaced apart rounded prongs 22 and 23. As is clear from the Figures the indentation 21 has a rounded shape.

As shown in Figure 3 the first end section 7 tapers between the upper surface 13 and the lower surface 14 from the inner end 17 to the outer end 9.

The upper surface 13 carries indicia forming a first measuring scale 22 which extends from a zero value at a centre point 23 equidistant from the first end 3 and the second end 4, to a predetermined first value located closer to the first end 3 than the centre point 23. This value is 30mm. The first measuring scale 22 also extends from the zero value at the centre point 23 to a predetermined second value located closer to the second end 4 than the centre point 23. Again, this value is 30mm. The indicia also includes signage 24 for the first measuring scale 22, which indicates that it is for measuring the jaw range of movement.

The lower surface 14 carries indicia forming a second measuring scale 25 which extends from a zero value located adjacent to the second end 4 to a predetermined third value located closer to the first end 3 than the zero value. This value is 60mm. The zero value is located at an inner extremity of the indentation 21, for reasons explained below. The indicia also includes signage 26 for the second measuring scale 25, which indicates that it is for measuring the tongue range of movement (although it is also used for measuring jaw rotation.)

The tool 1 comprises a solid core 27 made from a rigid plastics material and a resilient outer layer 28 surrounding the solid core 27, which is made from medical grade silicone. The tool 1 shown in the Figures is dimensioned to suit an average adult.

In use the tool 1 is held in the hand and is offered up to the desired treatment area, either by a treatment providing user, or by the subject themselves. Either the rounded first end 3 or the bifurcated second end 4 is applied to the treatment area with a gentle application force of 100g - 122g (0.9 – 1.2n), and it is moved over the treatment area either cross-fibre or fibre directionally, in order to activate fascia release, as required.

In particular, the rounded first end can be used to release digastric muscle, the sublingual wall muscles, the muscles around the zygoma, the medial pterygoid muscle and the suboccipital triangle muscles. The bifurcated second end can be used to release the buccinator muscles, the orbicularis oris muscle and the sublingual frenulum muscles. It can also be used extra-orally to address temporomandibular joint disorders by releasing tension in the forehead, eyebrows, under the eyes and in the temporals. It can also release tension in the masseter and buccinator extra-orally, and release any tension in the sternocleidomastoid.

It will be appreciated that the rounded first end provides a single rounded point of physical contact which is effective for the purposes described above, while the bifurcated second end provides two spaced apart points of physical contact, which are effective for the purposes described above.

The three dimensional shape of the tool 1 described above facilitates ease of use for the user, as they can grasp the central handle section 5 in their hand, and then apply either end 3, 4 to the treatment area. The angular difference between the central handle section 5 and the end 3, 4 being used to apply treatment allows areas inside the mouth to be reached more easily, and for beneficial leverage to be applied by the user. Furthermore, the fact that the end 3, 4 not being used is angled away from the plane 6 in the opposite direction conveniently positions it away from the area being treated. The user can also employ the end 3, 4 not being used to better grasp the tool 1, for instance by placing the end 3, 4 not being used in the palm of their hand, so as to more easily apply pressure.

The tool 1 is also dimensioned such that it can reach fibres in the mouth which are not easily accessible by a treatment professional using their hands. As is clear from the Figures the tool 1 is shaped to provide greater reach than could be achieved with the hands.

The tool 1 can be used according to a predetermined protocol, so the best results can be achieved. To treat tension in the buccinator and masseter muscles of the face the following procedure is used:

- i) The bifurcated second end 4 of the tool 1 is inserted into the subject's mouth with the left side 15 uppermost, and with the bifurcated second end 4 placed against the subject's left cheek. The subject then closes their teeth, and beginning at the masseter muscle, the bifurcated second end 4 is gently rotated across the front of the mouth until the bifurcated second end 4 exits the mouth via the lips. This action is repeated three times. The same procedure is then repeated in a mirrored fashion on the other side of the mouth, with the right side 16 uppermost and the bifurcated second end 4 moved over the subject's right cheek.

- ii) The tool 1 is inserted into the subject's mouth with the bifurcated second end 4 uppermost and the lower surface 14 distal the subject. The bifurcated second end 4 is placed between the subject's upper front teeth and the orbicularis oris muscle, and is then moved in a downwards rotation using a finger on the outside to provide support. This action is repeated three times. The same procedure is then performed in a mirrored fashion on the lower part of the mouth, with the bifurcated second end 4 lowermost and an upwards rotation performed.

- iii) The rounded first end 3 is then inserted into the user's mouth and is rotated three times clockwise and three times anti-clockwise around the sulcus between the gums and the tissue of the mouth. The subject should keep their lips closed as much as possible to help release any fascia tension.

To treat tension in the sublingual fascia and achieve digastric release the following procedure is used:

- i) The rounded first end 3 of the tool 1 is placed in the subject's mouth with the first end section 7 located inwards and the lower surface 14 outermost. The rounded first end 3 is placed under the tongue next to the inner jaw bone and moved around the inside edge of the jaw line to the front teeth. This action is repeated three times. If any bumpy spots are found the area should be massaged a few times to release any tension in the fascia. To increase the pressure applied the subject can run their thumb underneath the jaw line on the outside of their face to guide and follow the tool 1.

ii) The subject then sticks their tongue out and wiggles it from side to side keeping their jaw still in order to release tiredness or pressure.

iii) The rounded first end 3 of the tool 1 is then inserted into the subject's mouth and placed under the tongue by the frenulum, and the tool 1 is arranged at a 45 degree upward angle to the coronal plane of the subject. The subject then extends their tongue up the tool 1 as far as they can, holding that position for 8-10 seconds. This exercise reveals the amount of control the subject has over their tongue, as it may wobble from side to side in this position.

iv) The first to third measurements described below are then taken at this point, to ascertain progress which is made.

v) The tool 1 is then placed in the subject's mouth substantially normal to the coronal plane, with the bifurcated second end 4 arranged under the tongue. The subject extends their tongue along the tool 1, and then lifts it up. This exercise is performed for 8-10 seconds.

vi) The subject then opens their mouth and performs a suction hold with their tongue forced onto the roof of their mouth. The tool 1 is then placed in the subject's mouth with the rounded first end 3 applied to the sublingual wall on one side, and the tool 1 is moved over the sublingual wall from the back of the tongue to the front. This action is repeated three times on each side of the subject's mouth.

vii) Finally, if the subject has received tongue tie release surgery and the wound is fully healed, the tool 1 is placed in the mouth with the bifurcated second end 4 innermost, and the upper surface 13 uppermost, and arranged under the tongue with it in a lifted position. The tool 1 is moved in an up and down motion against the underside of the tongue. This action will help to prevent granulation and scarring of tissues in this area.

To treat temporomandibular joint disorders the following procedure is used:

i) The tool 1 is applied to the forehead with upper surface 13 uppermost and the bifurcated second end 4 against the skin, and starting at the eyebrow the tool 1 is moved up the forehead to the hair line. This action is repeated across from one side of the face to the other.

ii) The tool 1 is applied to the right side of the subject's forehead with the right side 16 upper most and the bifurcated second end 4 against the skin, and the prongs 22 and 23 straddling the subject's right eyebrow. The tool 1 is moved along the eyebrow in a direction away from the sagittal plane three times. This action is then repeated in a mirrored fashion on the opposite side of the subject's face with the left side 15 of the tool 1 uppermost.

iii) The tool 1 is applied to the right side of the subject's face with the right side 16 upper most and the bifurcated second end 4 against the skin, and the prongs 22 and 23 straddling the subject's right cheekbone. The tool 1 is moved along the cheekbone in a direction away from the sagittal plane two times. This action is then repeated in a mirrored fashion on the opposite side of the subject's face with the left side 15 of the tool 1 uppermost.

iv) The tool 1 is applied to the right side of the subject's face with the left side 15 uppermost and the rounded first end 3 against the skin, and with first end section 7 cupping the zygoma. The tool 1 is moved from the outside of the nose to the top of the subject's right ear two times. This action is then repeated in a mirrored fashion on the opposite side of the subject's face with the right side 16 of the tool 1 uppermost.

v) The tool 1 is applied to the right side of the subject's face with the left side 15 upper most and the bifurcated second end 3 against the skin. The tool 1 is moved from under the zygoma, along the mid-section and then along the jaw line two times. This action is then repeated in a mirrored fashion on the opposite side of the subject's face with the right side 16 of the tool 1 uppermost. This action works on the extra oral masseter and the buccinator muscles.

vi) The tool 1 is applied to the right side of the subject's face with the left side 15 uppermost and the bifurcated second end 3 against the skin. The tool 1 is moved across the temporalis from the corner of the subject's eye towards and past the ear, then up to the mid-section and towards the top. This action is then repeated in a mirrored fashion on the opposite side of the subject's face with the right side 16 of the tool 1 uppermost.

vii) The tool 1 is applied to the medial pterygoid on the right side of the subject's face, with the upper surface 13 uppermost and the rounded first end 3 against the skin.

The tool 1 is held against the skin with gentle pressure for 8 seconds. This action is then repeated in a mirrored fashion on the opposite side of the subject's face.

viii) The tool 1 is applied to the suboccipital triangle on the right side of the subject's neck, with the left side 15 uppermost and the rounded first end 3 against the skin. Gentle pressure is applied for 8 seconds to the indentation just past the bone, with the direction of pressure towards the subject's left eye. Pressure is applied for 8 seconds with the left eye covered with the hand. This action is then repeated in a mirrored fashion on the opposite side of the subject's neck with the right side 16 of the tool 1 uppermost.

ix) Finally, the tool 1 is applied to the sternocleidomastoid on the right side of the subject's neck, with the right side 16 uppermost and the bifurcated second end 4 against the skin (such that the second end section 10 points away from the sagittal plane). The tool 1 is moved from the area where the bands attach just under the ear, down to the collar bone. This action is then repeated in a mirrored fashion on the opposite side of the subject's neck with the left side 15 uppermost.

Prior to and after any of the above described treatments have been applied, the tool 1 is used to take measurements in order to document the subject's progress with regard to improved tongue movement and forward protrusion, as well as jaw opening and side to side movement.

Five key measurements can be taken in order to track the subject's progress as the treatment is provided over time. The first measurement is how far the subject can exercise their jaw to open their mouth with their tongue in a relaxed position. The indentation 21 is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale 25 for the position of the top teeth. This will be a value in mms between 0 and 60.

The second measurement is how far the subject can exercise their jaw to open their mouth with their tongue pressed against the roof of the mouth behind the top teeth, as if making an "n" sound. The indentation 21 is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale 25 for the position of the top teeth. Again, this will be a value in mms between 0 and 60. The degree of movement achieved here may be different to that achieved when the tongue is relaxed, as a result of fascia tension in certain muscles.

The third measurement is how far the subject can exercise their jaw to open their mouth with their tongue in a suction hold against the roof of the mouth, as if immediately prior to making a clicking sound with the tongue. The indentation 21 is placed over the teeth of the lower jaw, and the subject then opens their mouth as far as they can without pain. A measurement is taken on the second measuring scale 25 for the position of the top teeth. This will be a value in mms between 0 and 60, and once again the degree of movement achieved here may be different to that achieved when the tongue is relaxed, as a result of fascia tension in certain muscles.

The fourth measurement is how far the subject's tongue can project. The tool 1 is arranged with the lower surface 14 uppermost, and placed inside the user's mouth substantially normal to the coronal plane and with the indentation 21 placed under the tongue in front of the frenulum. The subject then extends their tongue and a measurement is taken on the second measuring scale 25 for the position of the tip of the tongue.

The fifth measurement is how far the subject can move their jaw from a neutral position to the left and to the right. The tool 1 is placed in front of the subject's face with the zero value at the center point 23 of the first measuring scale 22 aligned with the gap between the subject's two front teeth. The subject then moves their jaw as far to the left as they can, and a measurement is taken on the corresponding side of the first measuring scale 22. They then move their jaw as far to the right as they can, and a further measurement is taken on the other side of the first measuring scale 22.

A user employing the tool 1 to take measurements of a subject can readily take them by orienting themselves so they can view the measuring scale in question. If the tool 1 is being used at home then the subject can take these measurements themselves in a mirror, but this may be difficult. Instead an assistant can be called upon to take the measurements. The measurements can be documented to record improvements over time as the physical treatments are applied.

After use the tool 1 can be readily cleaned and reused, thanks to the use of medical grade silicone for the outer surface 28.

The tool of the invention can be altered in various ways without departing from the scope of claim 1. For example in one alternative embodiment (not shown) a tool like tool 1 is provided, but no indicia is provided thereon, and the tool is simply used to applied treatments without any progress measurements taken.

In other alternative embodiments (not shown), tools like tool 1 are provided which are dimensioned for use with an average child or an average infant. The particular dimensions are a matter for the skilled person to choose according to predetermined criteria. These tools have the same general three dimensional shape as tool 1, but are simply smaller to suit the smaller sizes of the subjects. In addition, the measuring scales are also reduced in size accordingly.

In another alternative embodiment (not shown) a tool is like tool 1 but its outer surface is provided with a colour. The purpose of the colour is to readily identify the tool as being for use with an average adult. In one embodiment the colour is blue. This alternative tool is for use alongside two further alternative embodiments (also not shown) which are dimensioned for use with an average child and an average infant respectively, and in each case the outer surface is provided with a colour to readily identify its intended subject. In one embodiment the colour of the tool for use with an average child is red, and the colour of the tool for use with an average infant is yellow. As such, a practitioner can own all three, and can readily select the appropriate tool for use with a particular subject. This avoids the use of a tool which may be too large or too small for the subject. This alternative embodiment provides support for the second aspect of the present invention.

In another alternative embodiment (not shown) a tool is like tool 1, except that the first measuring scale is located in a non-central position between the first end and the second end, so the zero value is not equidistant between them, but to one side.

Therefore, the present invention provides a tool for treating orofacial myofunctional disorders which significantly improves on the use of the fingers. Namely, the rounded first end and the bifurcated second end have shapes and resilient properties which are more effective at providing targeted physical treatment. Furthermore, the bifurcated second end finds particular application where it can straddle physical forms such as the frenulum, teeth, cheek bone, eyebrow and so on. The two measuring scales on the tool also give it a progress documentation function which has never been provided previously. The location and orientation of the measuring scales allow for several important measurements to be taken and recorded. Perhaps most importantly however the tool of the invention can be used by the subject at home to self-treat, following initial guidance from a trained practitioner. This avoids the need to travel to see one or more medical practitioners to obtain treatment. Medical grade materials are also used so the tool can be repetitively used in the oral cavity and extra-orally, and is easy to clean.

Claims

1. A tool for treating orofacial myofunctional disorders comprising an elongate body comprising a rounded first end and a bifurcated second end, in which said body comprises a central handle section, a first end section comprising said rounded first end at an outer end thereof and a second end section comprising said bifurcated second end at an outer end thereof, said first and second end sections being configured for applying pressure to treatment areas inside the mouth of a user in order to release muscle and/or fascia, in which each of said first and second end sections increases in width from an inner end thereof to a fullest transverse point thereof and then decreases in width from said fullest transverse point to said outer end thereof.
2. A tool as claimed in claim 1 in which said central handle section extends in a plane, said first end section extending away from a first side of said plane and said second end section extending away from a second side of said plane.
3. A tool as claimed in claim 2 in which said first end section extends away from said first side of said plane at an angle of approximately 25 degrees, and in which said second end section extends away from said second side of said plane at an angle of approximately 18 degrees.
4. A tool as claimed in claim 3 in which said body comprises a first surface on said first side of said plane and a second surface on said second side of said plane, in which said first surface and said second surface transition from said central handle section to said first end section along smooth lines of curvature, and in which said first surface and said second surface transition from said central handle section to said second end section along smooth lines of curvature.
5. A tool as claimed in claim 4 in which said second end comprises an axially extending indentation such that said bifurcated second end comprises a pair of spaced apart rounded prongs.
6. A tool as claimed in claim 5 in which said first end section tapers between said first surface and said second surface from said inner end to said outer end.

7. A tool as claimed in claim 1 in which said body comprises a first surface, in which said first surface carries indicia forming a first measuring scale which extends from a zero value at a centre point equidistant from said first end and said second end, to a predetermined first value located closer to said first end than said centre point.
8. A tool as claimed in claim 7 in which said first measuring scale also extends from said zero value to a predetermined second value located closer to said second end than said centre point.
9. A tool as claimed in claim 8 in which said body comprises a second surface, in which said second surface carries indicia forming a second measuring scale which extends from a zero value located adjacent to said second end to a predetermined third value located closer to said first end than said zero value.
10. A tool as claimed in claim 1 in which said tool comprises a solid core and a resilient outer layer surrounding said solid core.
11. A kit of parts for treating orofacial myofunctional disorders comprising a plurality of tools as claimed in Claim 1, in which each of said plurality of tools comprises substantially the same three dimensional shape as the others, but different aspect ratio dimensions.
12. A kit of parts as claimed in claim 11 in which three tools are provided.
13. A kit of parts as claimed in claim 12 in which a largest of said tools is coloured blue, in which a second largest of said tools is coloured red and in which a smallest of said tools is coloured yellow.