

MEDICAL-TUBE AFFIXING DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention:

5 The present invention relates to affixion of medical tubes like nasogastric tubes or drainage tubes, and more particularly to a medical-tube affixing device that affixes a medical tube to a patient using the tube.

10 2. Description of the Related Art:

 With the rapid progress of both science and medicine, there have been increasing improvements and breakthroughs in the field of detection and therapy of diseases, resulting in increased survival of people affected by physical injuries and diseases.

15 Consequently, healthcare for such affected people have been receiving more and more attention. Medical tubes such as nasogastric tubes and drainage tubes are extensively used in various medical applications where feeding or drainage is needed. For example, people incapable of self-feeding due to

20 physical conditions caused by injuries, diseases or aging,

nasogastric tubes are usually used by medical staff or caregivers to provide feeding or pharmaceuticals, to inspect food remnant in stomach, and/or to draw gastric juice for examination.

5 In use, a nasogastric tube after properly placed in a patient's stomach leaves a free end outside the patient's nose to be further connected to a medical apparatus for guiding fluid in or out. Conventionally, since such a free end is not especially arranged and fixed, it tends to get caught unintentionally by
10 surrounding objects when the patient turns his/her body or when a caregiver performs healthcare works, resulting in the patient's discomfort or even tube coming-off. This makes nasogastric tubes and other medical tubes a main source of inconvenience and health risks to patients.

15 For addressing the aforementioned concern, a common practice is to affix the free end of the tube to the patient's body using surgical tape. Specifically, the tape is wound around the tube and then adhered to the patient's nose bridge. For a coming feeding, the tape torn off from the patient's skin is usually
20 discarded because it becomes less adhesive or broken, so the

foregoing affixion work then has to be repeated every time the tube is used.

While this existing practice somehow works, it has obvious shortcomings:

5 1. The surgical tape has to be cut on site, adding operational inconvenience.

2. For better affixation, the surgical tape may press the tube against the patient's nose and nasal mucosa excessively, leading to nasal pressure ulcer and skin irritation.

10 3. Repeatedly tearing the tape off can pull the medical tube and/or hurt the patient's skin.

4. The existing surgical tape comes in rolls, so the non-adhesive surface may have glue residue, increasing the risks of contamination and infection

15 **SUMMARY OF THE INVENTION**

To solve the foregoing problems, the present invention provides a medical-tube affixing device, which comprises an adhesive portion, a connecting portion, and a clipping portion.

The adhesive portion is configured to be adhesively affixed to
20 a patient's nose bridge. The connecting portion movably

connects the adhesive portion and the clipping portion. The clipping portion is operative to hold and position a nasogastric tube, a drainage tube or a medical tube of other types with respect to the patient's body for easy adjustment and reliable
5 attachment, thereby ensuring the greatest comfort of the patient and the best efficiency of the intended use of the tube.

The primary objective of the present invention is to provide a medical-tube affixing device that allows comfortable and adjustable affixation of a medical tube, thereby preventing
10 pressure ulcer.

The secondary objective of the present invention is to provide a medical-tube affixing device that allows convenient affixation of a medical tube.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a perspective view of the present invention.

Fig. 2 is an exploded view of the present invention.

Fig. 3 is a cross-sectional view of the present invention.

Fig. 4 is another cross-sectional view of the present
20 invention, illustrating its assembling.

Fig. 5 is a further cross-sectional view of the present invention, illustrating its assembling.

Fig. 6 is an applied view of the present invention, illustrating its installation.

5 **Fig. 7** is another applied view of the present invention, illustrating its adjustment.

Fig. 8 is an applied perspective view of the present invention, illustrating its installation.

Fig. 9 is another applied view of the present invention,
10 illustrating its adjustment.

Fig. 10 is a perspective view of another implementation of the present invention.

Fig. 11 is a perspective view of a further implementation of the present invention.

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DETAILED DESCRIPTION OF THE INVENTION

While a preferred embodiment provided hereinafter for illustrating the concept of the present invention has been described above, it is to be understood that the components of
20 the embodiment shown in the accompanying drawings are

depicted with scale, dimensions and/or displacement facilitating easy explanation and need not to be made to exact scale.

As used herein, directional terms like “upper,” “lower,”
5 “front,” “rear,” “left,” “right,” “inner,” “outer,” and “lateral” shall be defined with respect to the accompanying drawings. Therefore, these directional terms are for illustration and understanding of the present invention, but not intended to limit the scope of the present invention.

10 First, referring to **Fig. 1** through **Fig. 5**, the present invention provides a medical-tube affixing device comprising an adhesive portion **10**, a connecting portion **20**, and a clipping portion **30**.

The adhesive portion **10** is a flat piece having an adhesive
15 surface **11** made of a medically acceptable material, such as silicone. The adhesive surface **11** is configured to be reusably adhered to a patient’s nose bridge. At the side of the adhesive portion **10** opposite to the adhesive surface **11**, there is a pivot post **12** and a retaining top **13** that are integratedly formed as a
20 unity. The pivot post **12** has a diameter smaller than the

diameter of the retaining top **13**.

The connecting portion **20** is a key-shaped member, having an elliptical yoke member **21**, an arm **22** and a ball-like socket **23** that are integrally formed as a unity. The yoke member **21** is centrally formed with a slot **211**. The slot **211** has its end near the arm **22** formed as an assembling hole **212** that accommodates the retaining top **13** of the adhesive portion **10**. The slot **211** is configured to slidably receive the pivot post **12** of the adhesive portion **10**. The arm **22** has one end connected to the end of the yoke member **21** having the assembling hole **212** and an opposite end connected to the ball-like socket **23**. The ball-like socket **23** defines therein a round chamber **231**. The chamber **231** is communicated with the exterior through a notch **232** formed at a free end of the ball-like socket **23**.

The clipping portion **30** is a pendulum-like structure connected to the connecting portion **20**. The clipping portion **30** has a link **31** that has a round cross-section and is terminated with a ball-like end **32**. The ball-like end **32** is configured to be pivotally received in the chamber **231** of the ball-like socket **23**.

The link **31** has a pair of jaws **33** defining an accommodating

space **331** at the end opposite to the ball-like end **32**. The
accommodating space **331** defined by the closed jaws **33** is not
shaped as a true round for better holding medical tubes that are
only made with round cross-sections. The jaws **33** are
5 configured to be operated to open or close by two elliptical
handles **34**. In the clipping portion **30**, the link **31**, the jaws **33**,
and the handles **34** are integrately formed as a unity.

In use of the disclosed medical-tube affixing device,
referring to **Fig. 6** through **Fig. 9**, the silicone-made adhesive
10 surface **11** of the adhesive portion **10** is put on the patient's
nose bridge. Then the yoke member **21** can be attached to the
pivot post **12** by aligning the assembling hole **212** with the
retaining top **13** and sliding the pivot post **12** along the slot **211**
communicated with the assembling hole **212**, so that the yoke
15 member **21** is retained on the adhesive portion **10** by the
retaining top **13**. The chamber **231** of the ball-like socket **23** of
the connecting portion **20** pivotally receives the ball-like end
32 of the clipping portion **30**. When an operator uses his/her
thumb and forefinger to draw the two handles **34** together
20 toward the link **31**, the two jaws **33** operatively connected with

the handles **34** are separated. Then a nasogastric tube can be put into an accommodating space **331** defined between the jaws **33** and when the handles **34** are released by the operator, the drainage tube is held in position in the patient's nostril. With
5 the ball-like end **32** and the link **31** of the clipping portion **30**, the nasogastric tube is allowed to be positioned and posed for both the greatest comfort of the patient and the best efficiency of tube feeding.

Referring to **Fig. 10** and **Fig. 11**, in another implementation
10 of the present, the disclosed affixing device may be implemented for holding a drainage tube in position around a patient's chest or abdomen for postoperative care. Therein, the affixing device comprises, from bottom to top as shown, an adhesive portion **10**; a pivot base **14** raised from the adhesive
15 portion **10** and laterally formed with a notch **15**, which is communicated with a round chamber **16** for rotatably receiving a ball-like end **32** of a clipping portion **30**, such that the ball-like end **32** when installed can rotate with respect to the adhesive portion **10**. The side of the adhesive portion **10** reverse
20 to the pivot base **14** is formed with an adhesive surface **11** that

is configured to be adhesively affixed to a patient's chest or abdomen. The clipping portion **30** has, in addition to the ball-like end **32**, a link **31** that connects the ball-like end **32** with two handles **34**. When an operator uses his/her thumb and
5 forefinger to draw the two handles **34** together toward the link **31**, two jaws **33** operatively connected with the handles **34** are separated. At this time, a drainage tube can be put into an accommodating space **331** defined between the jaws **33** and when the handles **34** are released by the operator, the drainage
10 tube is adjustably held in position around the patient's chest or abdomen. With the ball-like end **32** and the link **31** of the clipping portion **30**, the drainage tube is allowed to be positioned and posed for both the greatest comfort of the patient and the best efficiency of the intended drainage.

15 With the configurations described above with reference to the particular embodiments, the present invention provides the following beneficial effects:

1. The adhesive portion **10**, the connecting portion **20**, and the clipping portion **30** work together to provide convenient
20 affixion of a medical tube.

2. The ball-like end **32** and the link **31** of the clipping portion 30 allows free adjustment of the installed medical tube, thereby ensuring the patient's comfort.

3. The medical-tube affixing device of the present invention achieves reliable affixion while preventing from putting excessive pressure on the patient's nasal mucosa and skin.

The present invention has been described with reference to the preferred embodiments and it is understood that the embodiments are not intended to limit the scope of the present invention. Moreover, as the contents disclosed herein should be readily understood and can be implemented by a person skilled in the art, all equivalent changes or modifications which do not depart from the concept of the present invention should be encompassed by the appended claims.

What is claimed is:

1. A medical-tube affixing device, comprising:

an adhesive portion, having an adhesive surface, a pivot post, and a retaining top; the adhesive surface being configured to be reusably adhered to a patient's nose bridge; the pivot post and the retaining top being integratedly formed as a unity and attached to a surface of the adhesive portion reverse to the adhesive surface; the pivot post having a diameter smaller than a diameter of the retaining top;

a connecting portion, having a yoke member, an arm, and a ball-like socket; the yoke member being centrally formed with a slot; the slot having an end near the arm formed as an assembling hole that accommodates the retaining top of the adhesive portion; the slot being configured to slidably receive the pivot post of the adhesive portion; the arm having one end connected to the end of the yoke member and an opposite end connected to the ball-like socket; the ball-like socket defining therein a chamber; and the chamber being communicated with the exterior through a notch formed at a free end of the ball-like socket; and

a clipping portion, having a link that is terminated with a ball-like end; the ball-like end being configured to be pivotally received in the chamber of the ball-like socket; the link having a pair of jaws defining an accommodating space at the end opposite to the ball-like end; and the jaws being configured to be operated to open or close by two handles.

2. The medical-tube affixing device of claim 1, wherein the adhesive portion is made of a medically acceptable material, like silicone.

3. The medical-tube affixing device of claim 1, wherein the connecting portion is a key-shaped member, and the yoke member of the connecting portion is elliptical in shape, in which the yoke member, the arm and the ball-like socket are integrately formed as a unity.

4. The medical-tube affixing device of claim 1, wherein the clipping portion is a pendulum-like structure.

5. The medical-tube affixing device of claim 1, wherein in the clipping portion, the link, the jaws, and the handles are integrately formed as a unity.

6. The medical-tube affixing device of claim 1, wherein the

link of the clipping portion has a round cross-section, and the accommodating space defined by the closed jaws is not shaped as a true round.

7. The medical-tube affixing device of claim 1, wherein the handles are each an elliptical piece.

8. A medical-tube affixing device, comprising:

an adhesive portion, having a pivot base raised therefrom; the pivot base being laterally formed with a notch which is communicated with a round chamber, the adhesive portion having adhesive surface that is reverse to pivot base and is configured to be adhesively affixed to a patient's body; and

a clipping portion, having a link and a pair of jaws; the link having a ball-like end configured to be pivotally received in the round chamber, so that the ball-like end is allowed to rotate in the round chamber with respect to the adhesive portion; and the clipping portion having two handles operatively connected to the jaws, so that when the two handles are drawn together, the jaws are opened for a medical tube to be placed into an accommodating space defined between the jaws, and when the handles are released, the medical tube is hold by the jaws,

wherein the ball-like end and the link of the clipping portion work together to allow the medical tube to be adjustably held in position with respect to the patient's body.