must stay long time at the same patient's body portion to be treated often leads to damage or at least tiredness to the operator.

This often results in overloads on the operator's joints of the hand and even in chronic illnesses, such as osteoarthritis, arthritis, rhizarthrosis. Deep massage techniques are therefore rarely performed by physiotherapists or massage therapists due to such a significant effort to be performed with their fingers. As a consequence, a skin treatment can not be optimally performed.

It is an object of the present invention to provide a solution for the above drawbacks in a way that pressure skin treatments can be effectively performed in a way that the operator is no longer tired out and/or damaged during treatment and with which several patients can be automatically treated and/or monitored through the same operator.

SUMMARY OF THE INVENTION

Embodiments of tThe present invention seek to provides a support device for a skin treatment assembly and a skin treatment assembly that comprises said support device which overcome the aforementioned problems through an useful alternative in body skin suction treatments that provides additional advantages as it will be described hereinafter.

The support device for a skin treatment assembly according to an embodiment of the invention comprises an arm structure that is associated with a connecting member. This connecting member may be coupled, for example, to a support member such as an upright elongated member, e.g. an upright post mounted on a lower base portion. The connecting member may be displaceably coupled to the support member such that the arm structure attached thereto is adjustable in height depending on where the patient is (e.g. on a stretcher, in a wheelchair, standing up, etc) during treatment. In other embodiments, the connecting member may be fixedly coupled to the support member. In still other embodiments, the connecting member may be also coupled directly to a wall or ceiling if required. If mounted on a wall, for example, the connecting member may be displaceably fitted into a guide such that the connecting member may slide therealong for adjusting to a required height depending on where the patient is during treatment.

In the embodiment in which the connecting member is coupled to a support member, whether it is displaceably of fixedly coupled thereto, a lower base portion can be provided having a set of wheels, such as for example dual wheel carpet casters, so that it can be easily moved in the proximity of a patient's body for a proper positioning of the support device. Other base arrangements (e.g. with rollers, or even with no casters) are of course envisaged according to treatment requirements.

The support device of one embodiment of the invention further comprises at least one hose connector that is associated with the arm structure and with at least one skin treatment machine applicator. More particularly, the hose connector may be a connector block made, for example, of a suitable vibration damping material for absorbing any vibrations caused by a suction machine. The connector block is provided with an inner cavity that is conveniently shaped and sized for receiving a complementarily shaped portion of the carrying structure. For example, the connector block in each hose connector may be provided with a quadrangular shaped cavity, that may be a through cavity, for receiving a carrying structure having a complementary quadrangular shaped cross section. With this configuration, hose connectors can be easily and efficiently coupled in and decoupled from the carrying structure. This further allows the hose connectors to be rapidly exchanged for adapting to different requirements or in replacement and/or maintenance operations.

Hose connectors are suitably designed for receiving one or several hoses for conducting pressurized air from suction means in a suction machine. There may be provided one or a series of hose connectors each carrying and holding one or several hoses. Said one or a series of hose connectors are fitted in the support device of embodiments of the invention as disclosed above (i.e. by being fitted in the cavity of the carrying structure) and remains fixed there during treatment. Hose connectors are such that any working movements are reduced and they are not transmitted to the applicators thus ensuring an efficient treatment.

Regarding the arm structure of the support device, it may comprise two substantially parallel arms. A first end of each arm is pivotally mounted on the connecting member. The connecting member can be releasably clamped, for

With the above arrangement it is no longer necessary for the operator to hold the applicator or applicators throughout the skin treatment. The operator is allowed to attend other patients or doing other tasks in the meantime. This makes it possible to perform treatments, such as for example, release of contracture, tendonitis, postoperative fibrosis, muscle stretching, in an automatic process and effectively performed without the need for professional operators and by using a multiplicity of applicators as required for a efficient treatment. Such treatments can be performed on several patients simultaneously thanks to the support device of embodiments of the invention.

Therefore, a further advantage of embodiments of the invention is that it allows to save time and to provide cost effective treatments. Multiple automatic skin treatments can be performed concurrently without the presence of a professional operator for each treatment or patient. Once the applicator(s) has/have been positioned in the target position on the patient's skin and an appropriate mode of treatment has been appropriately selected and enabled in the suction machine of the assembly, the operator is not necessary to be present and she/he is free to do other tasks.

According to an aspect of the invention, there is provided a support device for a skin treatment assembly suitable for maintaining at least one skin treatment machine applicator at a given position when in use, the support device comprising an arm structure and a connecting member for mounting the support device on an appropriate place, wherein the connecting member is associated with the arm structure, and at least one hose connector associated with said arm structure, and wherein the arm structure comprises a first end pivotally mounted on the connecting member and a second end adapted for pivotally receiving a respective end of a carrying structure adapted for receiving the hose connector such that the arm structure is pivotable around respective horizontal axes at said first and second ends thereof.

According to another aspect of the invention, there is provided ~~The invention further relates to~~ a skin treatment assembly. It comprises a suction machine having suction means for applying pressurized air to a patient (e.g. according to several pressurized airflow patterns) through at least one applicator connected to corresponding hoses. The skin treatment assembly ~~according to the present invention~~ is further provided with a support device as described above. The different parts of the support device, that is, the base portion, the connecting member, the support member (if present) an the arm structure, are sized such that vibrations from the suction machine when in use are reduced such that applicators substantially do not move.

By the provision of a suction system according to embodiments of the invention comprising a suction machine and a support device, skin surface and deep treatments are now possible without requiring high efforts on the part of the professional operator. Thanks to the provision of the connecting member, the support device of embodiments of the invention can be mounted on a desired or appropriate place, for example, through the use of a support device, or it can be wall or ceiling mounted, etc.

Embodiments of t~~T~~he invention make~~s~~ it possible to treat~~ing~~ patients by sanitary and cosmetic professional personnel at any position on a stretcher, in a wheelchair or even standing up and in general in situations where he/she has to be treated by a suction machine. For example, elderly and disabled people in wheelchairs does not need to be laid on a stretch to be treated through the suction system of embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

A particular embodiment of a support device for a skin treatment assembly and a skin treatment assembly comprising such a support device according to the present invention will be described in the following, only by way of non-limiting example, with reference to the appended drawings, in which:

Fig. 1 is a general perspective view of one embodiment of a support device according to the invention, with the support device mounted on a support member and having several hose connectors having corresponding applicators and hoses;

Fig. 2 is an elevational view of the embodiment of the support device of Fig. 1;

Fig. 3 is a front view of the embodiment of the support device of Fig. 1;

Fig. 4 is an enlarged view of one embodiment of a hose connector of the support device of the invention;

Fig. 5 is a closer view of the hose connector of Fig. 4 fitted on a carrying structure in the support device of the invention.

Fig. 6 is a general perspective view of one embodiment of a skin treatment assembly according to the invention in which a suction machine and the support device of Figs. 1-3 are also shown; and

Fig. 7 is a front elevational view of the embodiment of the skin treatment assembly of Fig. 6.