

German utility model no. DE202018105021U1

Wireless Light Therapy Device for the Shower

Description

My invention is based on the further development of light therapy devices in showers (e.g., through ultraviolet light - UV). Among other things, UV-B light (e.g., daily for 10 minutes) allows for exposure that significantly increases the body's own production of vitamin D3 (cholecalciferol, the most important vitamin D molecule), especially during the dark season. Many studies demonstrate not only the benefits of light therapy but also the prevention of skin and other diseases.

There are many solutions for irradiation units, including in the form of tanning beds, sun lamps, UV spotlights, light showers, e.g.:

DE000002906512A1 - Tanning bed with head cooling,

DE000003317140A1 - Large device with power connection,

DE000003500367A1 - Permanently installed device,

DE000019820631A1, DE000020320193U1, DE102006015166A1 - Complex installation,

DE102015107669A1, WO002004071262A1 - Irradiation through a shower wall,

EP000000986985B1 - Very complex, including aromatherapy in a bathtub and shower,

WO002002036063A2 - Sunbed with large space requirement,

WO002014131115A1 - Portable on a stand,

WO002015049108A1 - Handheld device for therapeutic irradiation therapy.

The existing solutions are mostly expensive, cumbersome, partially located outside the shower cabin, require installation, a power connection with a cable connection, and sometimes take up a lot of space.

By combining a battery (accumulator, rechargeable battery) that is charged wirelessly, the irradiation and control unit, holders for the shower rod or strong suction cups, and absolute waterproofing (e.g., by silicone), the above problems - as shown in claim 1 - are solved: the components are either built into a single device or can be present as individual or combined units, e.g., connected by magnets.

An exemplary embodiment:

The light therapy device consists of an irradiation unit (special UV tubes or special LEDs, e.g., behind a shatterproof plastic screen or with waterproof-coated LEDs, as shown in claim 2), a possibly programmable control unit (e.g., only with a timer switch or with buttons for a display or with a touchscreen, as shown in claim 3), and the battery unit. If the device consists of more than one component, the units are connected by magnets (and/or hinges that can be opened and closed by magnets) according to claim 4, so that all components remain absolutely waterproof. If there is only a timer switch, it can also be set by a magnet.

The battery can, for example, be wirelessly charged via a charging pad/mat (usually through inductive energy transfer). Additionally, if the device consists of more than one component, the battery can have, in addition to the magnets, e.g., pins/recesses for additional stability of the entire light therapy device, which also wirelessly charge the battery and whose arrangement makes incorrect connection of the components impossible, as shown in claim 5.

If the device consists of more than one component, the irradiation unit is also wirelessly connected to the battery according to claim 6, since energy transfer with appropriate electronics also takes place inductively, possibly via the aforementioned pins and recesses. The UV tubes/LEDs are thus easy to replace. If waterproof-coated LEDs are not used, the irradiation unit should also be openable and reclosable for replacing the bulbs to minimize waste (as shown in claim 7).

As shown in claim 8, the control unit may also include various options: among others, a child lock, switching on and off by clapping or voice command, coupling with the water flow of the shower, programming via a smartphone app or computer program via Bluetooth, etc., and, in combination with the battery, also display the charging status.

Although the light therapy device is ideally mounted at torso height and - as per claim 9 - equipped with glare protection for the head (thus, radiation only horizontally and downwards), wearing protective goggles for the eyes is the safest solution during the operation of the light therapy device.

The light therapy device is thus accessible for a wide range of applications, wireless, easily portable, and can be installed space-savingly and without installation.

Claims

1. Wireless light therapy device for the shower, characterized in that a wirelessly charged battery is combined with an irradiation and control unit and mounts. These waterproof components are either built into a single device or can be present as individual or combined units, e.g., connected by magnets.
2. Wireless light therapy device for the shower, according to claim 1, characterized in that the irradiation unit includes special UV tubes or special LEDs behind a shatterproof screen or waterproof-coated LEDs.
3. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that the possibly programmable control unit has only a timer switch or buttons for a display or a touchscreen.
4. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that - if the device consists of more than one component - all units are connected by magnets and/or have hinges that can be opened and closed by magnets. If there is only a timer switch, it can also be set by a magnet.
5. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that - if the device consists of more than one component - for wireless charging or energy transfer between the components, in addition to the magnets, e.g., pins/recesses can be present between the components.
6. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that - if the device consists of more than one component - the irradiation unit is also wirelessly connected to the battery.
7. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that the irradiation unit is also openable and reclosable for replacing the bulbs.
8. Wireless light therapy device for the shower, according to one of the preceding claims,

characterized in that the control unit with a timer can include various options: among others, a child lock, switching on and off by clapping or voice command, coupling with the water flow of the shower, programming via an app/computer program via Bluetooth, etc., and, in combination with the battery, also displaying the charging status.

9. Wireless light therapy device for the shower, according to one of the preceding claims, characterized in that the light therapy device has a glare protection for the head.

No figures.