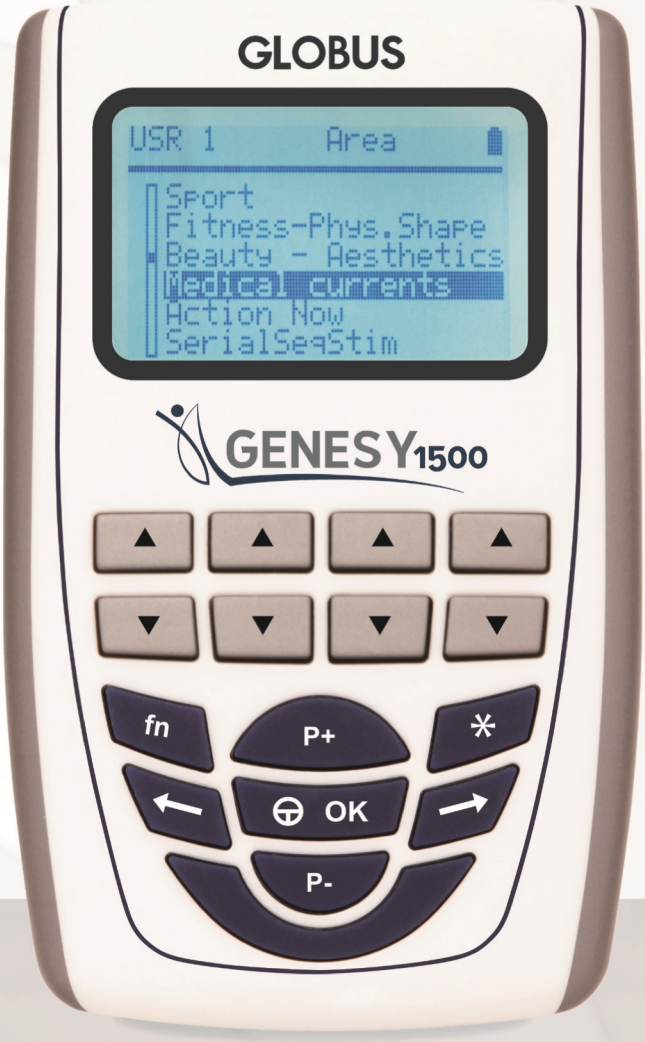
GLOBUS

ITALIAN EXCELLENCE

ELECTROSTIMULATORS

User Manual

GENESY 1500



CE 0476

DEAR CUSTOMER

THANK YOU FOR CHOOSING A GLOBUS PRODUCT. WE REMAIN AT YOUR ENTIRE DISPOSAL FOR ANY ASSISTENCE OR ADVICE YOU MAY NEED

The electrostimulators GL4 (Genesy 1500) are manufactured and distributed by:

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This product has been manufactured according to the technical regulations in force and is certified according to Directive 93/42/EEC updated by 2007/47 directive for medical devices, by Kiwa Cermet Italia s.p.a. (authorization n. 0476), in order to ensure the product safety.

Table of contents

TECHNICAL FEATURES

Device

Size:	160x99x35.4 mm
Weight:	404 g
Case:	in Food Grade ABS
Protection level:	IP 22
Storage and transportation temperature:	from -10°C to 45°C
Max. relative humidity:	30% - 75%

The values indicate the limits allowed if the product or its accessories are not in the original package.

Conditions of use

Temperature:	from 0°C to 35°C
Max. relativity humidity:	from 15% to 93%
Atmospheric pressure:	from 700 hPa to 1060 hPa

Technical features of the currents

EMS and TENS:

Channels available:	Channels 1-2-3-4
Constant current:	Yes
Intensity:	0-120 mA with 1000 Ohm load
Wave form:	Rectangular, biphasic, symmetrical, compensated
Working frequency:	0.3-150 Hz
Recovery frequency:	0.3-150 Hz
Pulse amplitude:	50-450 µs
Working time:	from 1 to 30 seconds
Recovery time:	from 0 to 1 minute
Frequency mod. range:	continuous variation from 1 to 150 Hz
Min. modulation time:	3 seconds
Amplitude modulation range:	continuous variation from 50 to 450 µseconds

Microcurrents:

Channels available:	Channels 1-3
Constant current:	Yes
Min. frequency:	5Hz
Max. frequency:	200Hz

Min. intensity:	0 µA/1000 Ohm Step 10 µA
Max. Intensity:	800 µA/1000 Ohm
Amplitude value:	included between 1 and 250 µseconds

Interferential:

Channels available:	Channels 1-3
Max. intensity:	60 mA
Main frequency:	2500 Hz - 4000 Hz - 10000 Hz
Frequency modulation:	0 - 200 Hz
Pulse modulation:	Variable in duration and period

Russian:

Channels available:	Channels 1-3
Max. intensity:	60 mA
Main frequency:	1250 - 2500 Hz
Modulating wave:	6-12-25-50-100Hz

Denervated muscles:

Channels available:	Channels 1-3
Max. Intensity:	60 mA
Pulses:	Triangular 1000 ms, Rectangular/trapezoidal 500 ms

Ionophoresis:

Channels available:	Channel 1
Constant current:	Yes
Min. intensity:	0 mA/1000 Ohm
Max. intensity:	10 mA/1000 Ohm steps of 0.1 mA/1000 Ohm
Min. time:	1 minute
Max. time:	99 minutes

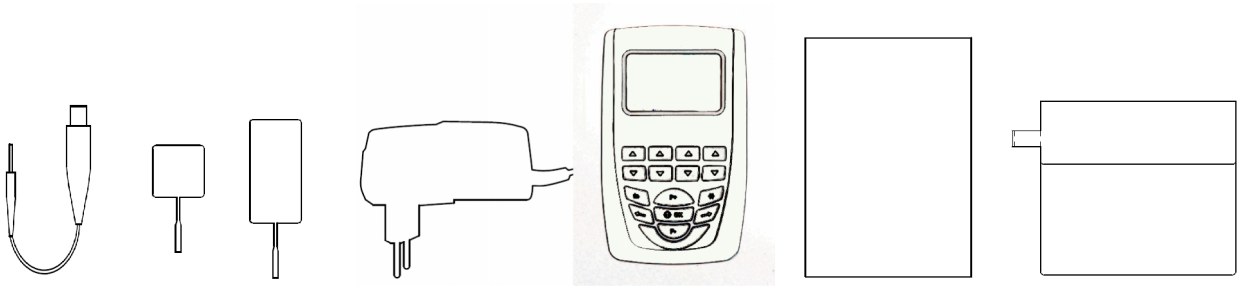
Power supply unit:

Brand:	GLOBTEK
model:	GTM4160-2512
PRI:	100-240Vac 50-60Hz Max 0,6A
SEC:	12V ⎓ 2,08A
Polarity:	

Battery

Battery pack:	Ni-MH 7,2 V 1,8 Ah

EQUIPMENT



A B- C D E F G

The electrostimulator is supplied complete of cables and electrodes: therefore, please check that the package contains the complete equipment. If some elements are not contained in the package, please contact immediately the authorized retailer where you purchased the product.
Control the integrity of the device and its electrodes carefully.

A. 4 colored electrode connection cables (for EMS, TENS, DENERVATED, INTERFERENTIAL, RUSSIAN treatments) and 2 gray cables for electrode connection (for MICROCURRENT and IONOFORESIS treatments)
B. A bag containing 4 reusable self-adhesive electrodes (50 x 50 mm)
(Use these electrodes for small areas such as upper limbs, calves, cervical…)
C. A bag containing 4 reusable self-adhesive electrodes (50 x 90 mm)
(Use these electrodes for large areas such as thighs, abdomen and glutei...)
D. Power supply unit (See technical features)
E. GL4 Unit
F. User manual
G. Carrying bag

All the supplied information can be modified without prior notice.
The device can be used with some optional accessories (for further info, visit the website www.globuscorporation.com).
If you are interested in buying these accessories, please contact the retailer.

Accessories not included (available on charge)
- Motor point pen
- Kit of 8 elastic bands for legs and thighs
- Kit of 4 elastic bands for thighs
- Face electrodes

- Kit Y cables
- Gel
- Rectangular electrodes for ionophoresis (60x85 mm)
- Fast band
- Fast pad
- Anal and vaginal probes

INTENDED USE

The service life of the product is estimated at 5 years. It is advisable to return the product for maintenance and security checks every two years. The device can be plugged to the mains for a continuous use. The number of treatments depends on the battery charge. The duration of the battery is 6 months; thereafter its replacement is recommended.

The Genesy 1500 devices are not designed to be used at home and are intended to be used in the following operating environments:
- clinics;
- physiotherapy centers;
- rehabilitation centers;
- general pain treatments (in medical field).

The device can be used by medical and physiotherapy staff only.

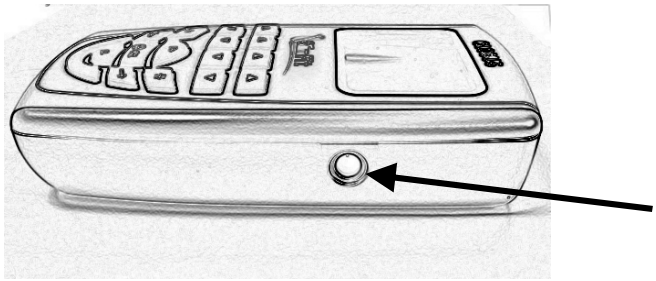
CONNECTIONS

Cable connection outlets and power supply

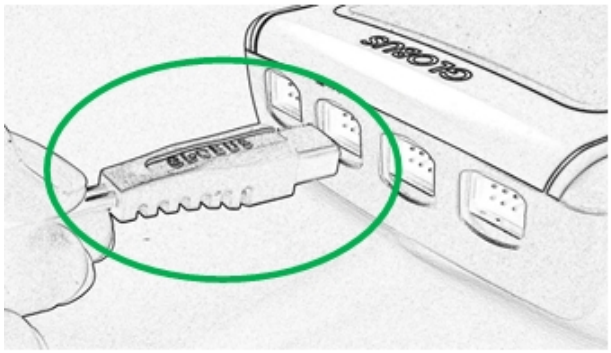
Attention:
If the package, the cable or the connector of the charger show signs of wear or damage, replace them instantly.

Device

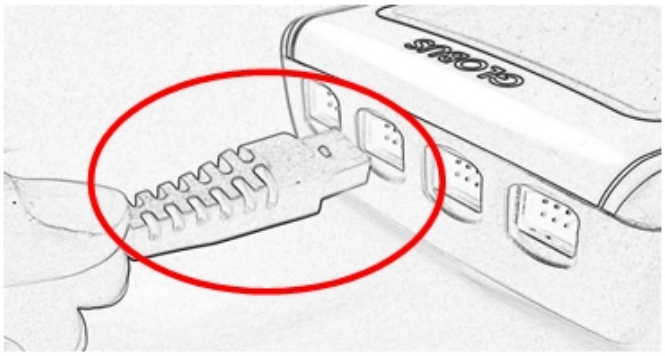
Power supply by electricity grid. Genesy 1500 can operate also connected to the mains 230 V. To connect the power supply to the connector, plug it as shown below.
To isolate the charger from the mains you have to disconnect it from the mains outlet.



How to connect the cables



OK



NO

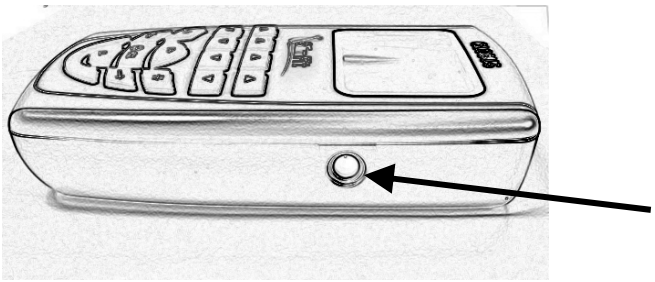
Plug the connectors in the slots in the upper part of the unit to connect the diffusers to the device, (see pic.) **When plugging in the cable, the grooves of the cable have to be oriented downward.** The inlets are placed exactly under the corresponding channels.

NOTE: For EMS and TENS currents, the 4 channels with colored cables can be used indifferently.
NOTE: For microcurrent programs use only channels 1 and 3 with gray cables.
NOTE: For denervated muscles programs (rectangular, triangular, trapezoidal) use only channles 1 and 3 with colored cables.
NOTE: For interferential programs use only the channels 1 and 3 with colored cables.
NOTE: For ionophoresis programs use only the channel 1 with gray cables.

Electrode application

Remove the electrodes from the original package; all new electrodes have a seal on the package. Ensure that the device is off. First, connect the two cable plugs to the electrodes, then disconnect the electrodes from their position and apply them on the skin. See the pictures included in this manual to place the electrodes correctly.
After use, place the electrodes in their original position again.
ATTENTION: Do not unplug the electrodes if the unit is working.

Battery: how to charge the batteries



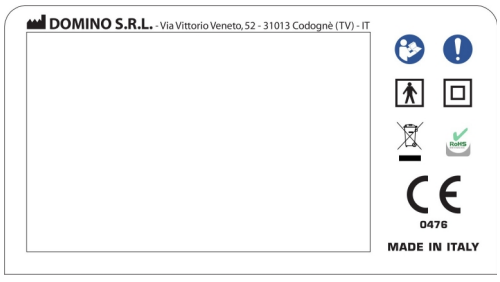
The device is supplied with a set of rechargeable nickel-metal hydrate batteries (7.2V, 1.8Ah), which have high performance without memory effect.
Recharge the batteries when the battery indicator on the display indicates ¼.
To charge the batteries, turn off the electrostimulator and disconnect the electrodes, then connect the electrostimulator to the charger provided by plugging it in the appropriate inlet (see picture above).
Use the charger contained in the package only. Contact the authorized service center to replace the batteries.

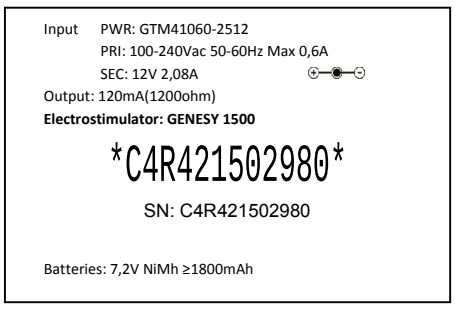
LABELLING AND SYMBOLS

	Warning
	This symbol on your device indicates that it complies with the directives on medical devices (93/42/CEE 47/2007CEE). The number of the notified unit is 0476
	It indicates that this is a II class device
	It indicates that this device has type BF parts
	WEEE symbol (Waste of Electrical and Electronic Equipment). Recycling symbol. The WEEE symbol used for this product indicates that the device may not be disposed of as a household product. Properly dispose of the product to help protect the environment. For more information on recycling this product, contact the local competent department, the household waste management company or the store in which the product was purchased
	It indicates that the product has been produced respecting the directive 2011/65/CE
	It indicates the optimal temperatures for the storage and transportation of the product
	It informs the operator that before using the device he must read the manual
IP22	It indicates the water protection degree
	It informs the operator of a compulsory conduct
	It refers to the pressure of the storage and transport environment where the device and its accessories are used
	It refers to the humidity of the storage and transport environment where the device and its accessories are used

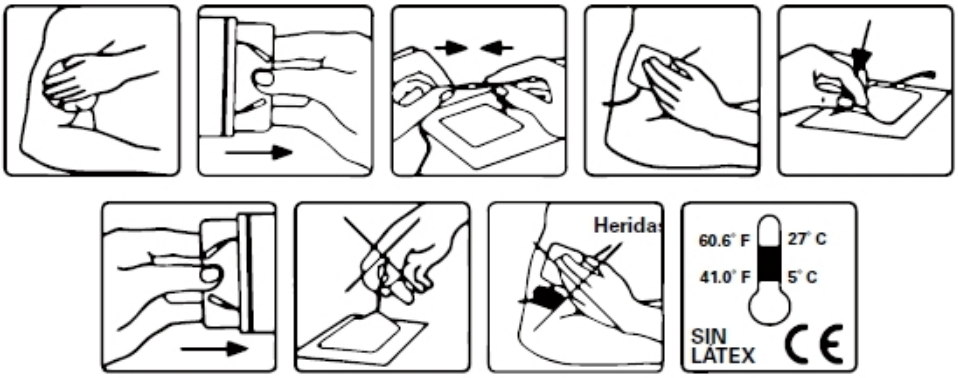
PRI	Mains voltage
SEC	Power supply voltage
Input	Input: it indicates the value of the mains voltage for the power supply unit
Output	Output: - it indicates the power supply unit outbound voltage - it indicates the maximum power value of the magnetic field emitted by the device - it indicates the range of frequencies of the magnetic field emitted by the device
Type	It indicates the device type
Power	It indicates the power supply unit model of the device
Battery	It indicates the battery pack inside the device
	It refers to the manufacturer
	It refers to the expiry date
	It refers to the production lot
RH	It refers to the percentage of storage humidity
	It refers to the manufacturing date
	Polythene symbol

Device



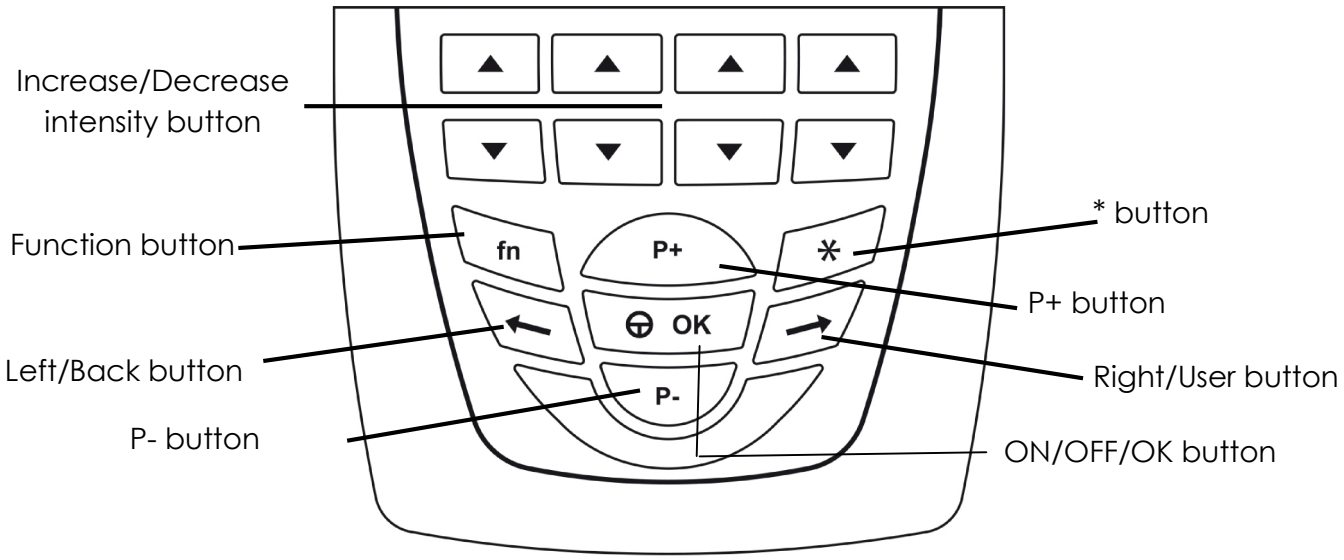


Accessories
Electrodes



The supplied electrodes can be used on a single patient. They are self-adhesive, reusable and pregelled. The electrode cable is female. The electrodes are labeled "CE" in compliance with Directive 93/42/EEC for medical devices. All the supplied information can be modified without prior notice.

PANEL AND KEYBOARD

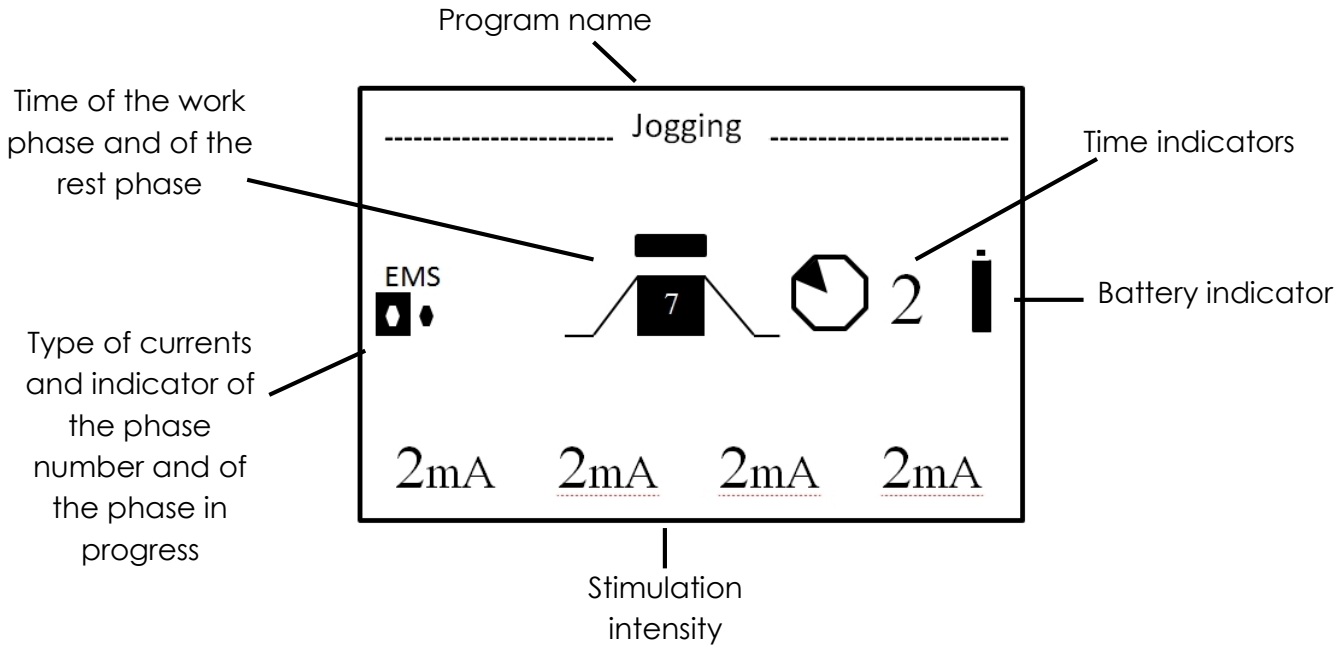


NOTE : When the 3" message appears, it means that pressing the button for 3 seconds activates the function.

ON/OFF/OK Button It confirms the selection. While a program is running, it activates the pause.
3" = ON/OFF.

Left/BACK Button	It moves the selection to the left. It returns to the previous selection. 3" = While a program is running, it returns to the previous phase.
P+ Button	It moves the selection upwards. While a program is running, it increases the intensity of the 4 channels simultaneously.
P- Button	It moves the selection downwards. While a program is running, it decreases the intensity of the 4 channels simultaneously.
Right/USER Button	It moves the selection to the right. 3" = While a program is running, it moves to the next phase.
*** Button**	It starts and stops the contraction during the execution of the "Action Now" programs (in the devices where the function is included).
fn (Runtime)	If pressed together with other buttons, it modifies their function; if pressed singularly during the stimulation, it permits the access to the Runtime function (to modify time, frequency and amplitude).
Intensity button	It increases/decreases the stimulation intensity of the corresponding channel.

Display and interface



ALARMS

Compliance

Certifications: CE MDD certificate.
The sound and acoustic signals are in compliance with directive 60601-1-8.

Meaning of the “Electrode error” alarm

If one or more cables are not connected to the mains, or if microcurrents cables are used to an EMS program, the message "Electrode error" will appear on the display.

WARNINGS AND CONTRAINDICATIONS

Mandatory behavior

For safety reasons, the device must be used exclusively as indicated in the present manual.
Do not perform the treatment in case of skin lesions.
If the package, the cable or the charger connector show signs of wear or damage, replace them instantly.
The unit has to be connected to the mains by its power supply unit. Before starting the treatment, ensure that the building wires comply with the directives in force in your country. Ensure that the power supply unit is in a comfortable position and can be easily unplugged.
The producer declines all responsibility relating to any misuse or mishandling of the device.
Electronic or manual reproduction of part or all of the contents of the present handbook is strictly forbidden without producer's prior permission.

Warnings before use

Do not use Genesy 1500 combined with other electronic devices, especially if they maintain vital functions. Read the tables at the end of the present manual for a correct use of GENESY. If the device is used nearby or on other electromedical equipment, ensure that GENESY works properly.

- Read the present manual carefully before using the device. Keep the present manual in a safe place;
- The current emitted by the device is higher than 10mArms.
- Checking the integrity of the device before each use is a fundamental requirement to perform the therapy correctly. The device must not be used if the buttons or cables are defective or malfunctioning.

The device:

- has to be used for neuromuscular stimulation only and as described in this manual;

- has to be used for purposes for transcutaneous neuromuscular stimulation only.
- has to be used according to the indications in the present manual and under the physician's or physiotherapist's supervision;
- has to be used with the electrodes included in the package and specifically intended for transcutaneous neuromuscular stimulation;
- has to be kept out of the reach of children;
- ECG monitoring devices may not operate properly when electrostimulation is working.
- has not to be used in transthoracic modality because it may cause cardiac arrhythmia, interfering with the heart frequency. Do not stimulate the pectoral and dorsal muscles simultaneously;
- in case of health problems, consult the doctor before use;
- the simultaneous use of high-frequency electrosurgery device may sear the skin near the electrodes and damage the electrostimulator;
- Check whether the software version and the device model appear during start-up, which means that the device is working correctly.
- Otherwise, if all the segments appear on the monitor, shut down the device and restart it. If the problem persists, contact the customer care and do not use the device.
- If the device switches off unexpectedly, the battery is likely to be out of charge and has to be recharged according to the instructions in the section HOW TO CHARGE THE BATTERIES.

Warnings during use

While using the electrostimulator, please comply with the following indications:
- damaged cables have to be replaced with original, brand-new parts;
- use only Globus electrodes;
- pay particular attention when the current density for every electrode is above 2mA/cm^2 (effective value);
- keep the device out of the reach of any pet which could damage it and contaminate the electrodes and its accessories with parasites;
- the cables, the solenoids and the power supply must never be wound up around the neck, since it may lead to strangulation and suffocation;
- mobile and fixed radio-communication devices may affect the functioning of GENESY; read the tables in the present manual for more info.

Preventative measures for incontinence treatments.
- Do not use the device on patients with extra-urethral incontinence.
- Do not use the device on patients suffering from excessive incontinence owing to evacuation disorders.
- Do not use the device on patients with severe urinary retention to the upper urinary passages.

- Do not use the device on patients with total peripheral denervation of the pelvic floor.
- Patients suffering from a total/subtotal prolapse of the uterus/vagina have to be stimulated with extreme care.
- Patients with infections to the urinary passages should be treated for these symptoms first, before starting the stimulation treatment.
- Before removing or touching the probe, it is necessary to turn off the stimulator or to regulate the intensity of both channels to 0,0 mA.
- Since the treatment is a personalized medical prescription, do not lend the stimulator to non-authorized persons.

Side effects

Isolated cases of skin irritation may occur in patients with particularly sensitive skin. In case of an allergic reaction to the electrode gel, suspend the treatment and contact a specialist.
If during the treatment signs of tachycardia and extrasystole appear, suspend the treatment and contact your physician.

Contraindications

Do not use the device in the following cases:
- Stimulation of the front neck (carotid sinus);
- Pacemaker wearers;
- Patients with tumor diseases (see your oncologist);
- Stimulation of the brain region;
- Pains whose etiology is unknown;
- Ulcers and dermatological disorders;
- Severe traumas.
- Stimulation on recent scars.
- Pregnancy.
- It is strictly forbidden to use the electrostimulator on the ocular area.
- Near body areas with osteosynthesis implants (prostheses, coils, screws, orthopedic plates), when using monophasic, interferential or continuous current and ionophoresis.

It is recommended to use the device carefully on people presenting with capillary fragility, as an excessive stimulation could cause capillary rupture.

MAINTENANCE AND CLEANING

Device

- If the case is damaged, it has to be replaced with a brand-new part.
- In case of malfunctioning, do not tamper with, open the device nor try to repair it by yourself.
- Only specialized and authorized centers can repair the device.
- Avoid violent impacts that may damage the device and cause its malfunctioning (which may be not immediately detectable).
- Use the device in a dry and open environment. Do not wrap the device.
- Clean the device and accessories only with disinfectant with sodium hypochlorite or quaternary ammonium salt diluted with distilled water (percentage 0.2-0.3%). After cleaning/disinfecting it, dry the device and its accessories with a clean cloth.
- It is recommended to clean/disinfect the parts after every use, unless otherwise indicated.
- Always use the device and its accessories with clean hands.
- It is recommended to use the device in a clean room, to avoid contamination with dust and dirt.
- It is recommended to use the device in a well-ventilated space.

Battery

Battery info

A specific menu allows the user visualize the charge and the state of the battery.
It is recommended to access the menu only if the batteries are completely charged.
To enter the menu, choose "Advanced" from the main menu, then select "Setup" and finally "Battery info".
Six codes will be visualized:
COD1 = 0 expected voltage threshold reached.
COD1 = 1 max. charge time reached.
COD2 = value of the battery voltage at the beginning of the charge.
COD3 = value of the battery voltage at the end of the charge.
COD4 = charge duration (from 1 to 840 minutes, ideal time 720 minutes).
COD5 = duration of the charger/power supply connection.
COD6 = voltage of the battery pack.
According to the above-mentioned values, it is advisable to replace the battery when COD1 = 1 and COD3 < 7,4 volts, or when COD3-COD2 >= 2 volts and COD4 <600, or, again, when COD6 is lower than 5,8 volts.
Furthermore, it is recommended to replace the battery pack after 3 months of inactivity. After that period, batteries generally lose their charging capacity, which may render the recharge dangerous.

Accessories

Use and storage of the electrodes and the cables.

Worn-out cables or electrodes have to be replaced with brand-new parts.
Skin has to be cleaned accurately before applying the electrodes.
After using the multi-purpose or single-use, single-patient electrodes, they have to be placed in their plastic film and stored in the plastic bag.
Avoid that the electrodes touch each other or lay one over the other.
Once the package has been opened, the electrodes can be used for 25-30 applications.
The electrodes have to be always used with clean hands and replaced if they do not adhere to the skin.
If not using self-adhesive electrodes, it is advisable to clean the surface with proper cleansers that respect the requirements described in the manual.

Disposal of the device

Do not burn the device or part of it, but dispose of the product in the specialized centers and respecting the directives in force in your country.
When the product has to be disposed, the user can return it to the retailer when purchasing a new unit.
Following the previous indications and correct separate waste collection contribute to avoiding possible negative effects on the environment and health and promote the reuse and/or recycle of materials which the device is composed of. The illegal disposal of the product entails the application of an administrative fine according to the current regulations.

For a correct use of the device, the user should proceed as follows:
- Connect the cables to the outlets on the unit.
- Connect the electrodes to the connectors at the end of the cables.
- Place the electrodes on the skin.

Start up

Turn on the electrostimulator by pressing the ON/OFF/OK button for 3 seconds until hearing a tone.
The names of the unit and of the software version appear on the right-bottom corner of the display.
The entries of the main menu may vary according to single models.
Use the P+ and P- buttons on the keyboard to scroll the menu:

"Program List" menu

When selecting "Program List", the following areas, according to the model, are shown:

- SPORT
- FITNESS-PHYSICAL SHAPE
- BEAUTY-AESTETHICS
- MEDICAL CURRENTS
    - MICROCURRENTS
    - DENERVATED
    - IONOPHORESIS
    - PAIN-ANTALGIC
    - REHABILITATION
- ACTION NOW
- SERIAL SEQUENTIAL STIMULATION
- INTERFERENTIAL
- ELECTROTHERAPY

Program selection

- Area selection:

With the P+ and P- buttons of the keyboard, move the cursor on the desired area.
Press OK to confirm.
Press the left (Back) button to return to the previous screen.

- Program selection.
- Body part selection (when available)

How to start a program

Once you have selected a program, the following entries will appear:

- Start;
- Electrode placement;
- Add to Favorites (see "Favorites" menu);
- Add to Treatments (see "Treatments" menu);
- Continue with 2+2 (see 2+2 mode).

Select Start to start the program and increase the channel intensity in the following screen.

Increase/decrease intensity

To increase/decrease the intensity of the single channel, press the Up and Down buttons of the corresponding channels.

To increase/decrease the intensity of all channels simultaneously, press the P+ or P- buttons.

Run Time functions

Once a program has started, it is possible to modify:
- time
- frequency
- amplitude

Press Fn to edit the parameters of the ongoing phase. A new screen appears and the phase time is highlighted.
Press P+ or P- to edit the time.
Wait for 5 seconds to confirm the time automatically, or press Fn.
Press LEFT/RIGHT to move to the other parameters that you wish to modify and repeat the above-mentioned process.

Visualization during a program execution

While a treatment is executing, the display shows the name of the program (at the top), the number of total phases and the phase in progress, the remaining time of the phase in progress and the type of the wave used (EMS, TEN, MICROC…). In the programs with intermittent stimulation the time countdown graphically represents the work or the rest phase.

How to pause a program

Press OK to pause a program and eventually press OK again to return to the program. The intensity indicators will be reset to zero every time the treatment is stopped or restarted.

How to stop a program

When stopping a program before its end, hold down OK for 3 seconds to turn the device off.

How to skip a phase

Hold down the RIGHT button for 3 seconds, If you wish to pass to the following phase before the end of the ongoing.
To return to the previous phase, press the LEFT (back) button for 3 seconds.

"Last 10" menu

The electrostimulator stores the latest 10 executed programs, which will be available for a rapid and easy execution.
A program is stored automatically at the end of the execution. When the memory is full, older programs are automatically deleted.
When turning device on, select "Last 10" and then confirm with OK.
Select the program you wish to execute by pressing P+ or P-.
(If no program is stored, the message EMPTY appears).

After confirming, three entries are displayed:
a. - Start
b. - Electrode placement
c. - Delete from the list

a. It is possible to execute the selected program by placing the cursor on "Start" and choosing between two modes (automatic or normal). To activate the automatic function press OK, whereas to activate the normal function press the increase intensity buttons.
The message "AUTO" appears on the display above the indicator phase when the automatic function is activated.

Automatic function (AUTO STIM) Available only for EMS and TENS currents

The AUTO STIM function enables the user to execute a program automatically, i.e. without having to regulate the intensity. Intensity values are automatically set to the levels used during the last execution of the same program. The AUTO STIM function can be used only for programs listed among the "Last 10" memory.

Notes:

- To execute a program in AUTO STIM mode, it is necessary to apply the electrodes of each channel on the same position and muscular group (or body part) chosen for the previous execution of the same program. In fact, intensity values are specific to each channel.
- When using AUTO STIM mode, each user must access the electrostimulator with a personal user code (USER).

It is possible to exit AUTO STIM mode by pressing any increase button.

b. If placing the cursor on "Electrode placement", a brief guide for the correct placement of the electrodes is displayed.

For further information on the electrode placement, see the picture included in the end of this manual.

c. Placing the cursor on "Delete from the list", the selected program will be no longer present in the "Last 10 executed programs" area.

The "Last 10" programs memory refers to a specific user. Thanks to the USER SELECTION (multi-user) function, different users (up to 10, plus default user, defined as USER 0, in Genesy 600 and up to 3 in Genesy 300) can have their own “Last 10” memory

“Favorites” menu

This menu enables the user to save the 15 most used programs in a specific memory. To save a program, choose the program you want to save from the "Program List" menu. Before execution, select "Save in Favorites" and confirm with OK. The selected programs can be easily executed from the “Favorites” menu.

NOTE: In Mode 2+2, it is not possible to store favorite programs.

“Treatments” menu

The “Treatments” menu (**Stim lock**) enables the user to lock the device. If the device is blocked, the user can only perform the programs stored thanks to the “Add to” function in the screen prior to the program execution.
The function has been conceived when the units has to be used by beginners or patients who have to perform the programs specifically chosen by a specialist.

Activation of the STIM LOCK function

Press and hold Fn and → (RIGHT button) for at least 3 seconds until the area where the treatments have been saved appears. When activating the STIM LOCK function, the units works with limited functions.

Deactivation of the STIM LOCK function

Press and hold Fn and ← (LEFT button) for at least 3 seconds until the main menu appears.
NOTE: If the main menu does not appear, when the unit has been turned on, verify that the Stim lock function is not activated.
Try to deactivate it.
If the problem persists, contact the customer care.

“Programming” menu

The Electrostimulator offers the possibility of creating new programs and modifying the existing ones, which renders the device highly flexible and suitable to all requirements.
By selecting the "Programming" entry, it is possible to create new programs (when the message EMPTY appears) and to execute customized programs. These programs can be modified at any time (see the section "How to modify a program" below).

The programs created with this function are the same for all USERS and cannot be stored in the "Last 10" menu nor in the "Favorites" menu.

How to create a new program

Use the P+ and P- buttons to select a number (from 1 to 5 in Genesy 300 and from 1 to 15 in Genesy 600) for the program you wish to create and confirm with OK.

Program name insertion

Use the LEFT and RIGHT buttons to select the letters and to confirm the name of the new program with OK. To delete a letter, move the cursor on “Delete”. After inserting the program name, select “Continue”.

Parameters setting

STEP 1. Press P+ and P- to select the type of stimulation desired.

STEP 2. Press P+ and P- to select the number of phases of the program.

STEP 3. After setting the number of phases of the program, it is possible to select the desired parameters on different screens. Press P+ or P- to select the parameters.

The procedure executed so far is the same for every type of program you wish to create.

If the program presents more phases, the insertion of a phase is automatically followed by the successive phase.

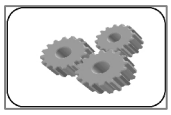
NOTE: The programmable types of stimulation vary according to the model.

How to modify or delete a program

In the "Programming" menu, it is possible to modify or delete the programs previously stored.

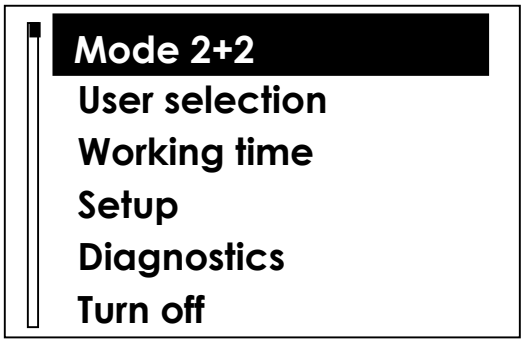
Press and hold "fn" + P+" buttons to modify and "fn" + "P-" to delete.

NOTE: it is not possible to set mixed multi-phase programs. (e.g. EMS+TENS program).



"Advanced" menu

The advanced menu includes the following entries:



Mode 2+2

The device allows the execution of two different programs (Ems or Tens) at the same time, thus permitting the simultaneous treatment of two patients or two muscular groups.

How to set multiple treatments

There are two possibilities to execute two different programs simultaneously:

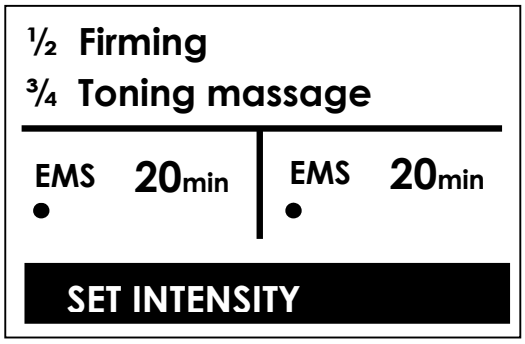
a. Selecting "2+2 Mode" from the advanced menu

b. From the "Program list" menu;

a) From the main menu, select "Advanced -- Mode 2+2" and confirm with OK.

Select the area and the name of the first program. Now, it is possible to select the name and the area of the second program.
b) From the Program list" menu, select the area and the desired program. Now select "Continue with 2+2" and select the second program.

NOTE: During the Mode 2+2 the following screen will appear:



The program on the left works on channels 1 and 2, while the program on the right works on channels 3 and 4.

User Selection

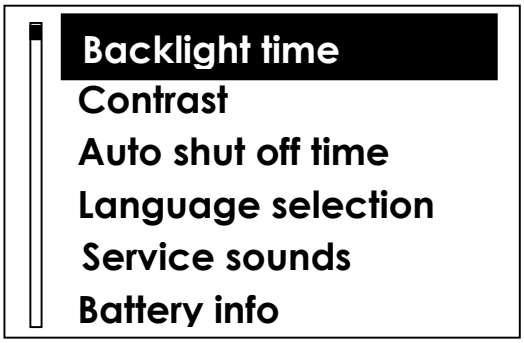
It permits the use of the special menus ("Last 10", "Favorites") in a personalized manner.
Users can store their programs in "Favorites" and perform them only when entering their specific account. The same procedure applies to the "Last ten" programs.
NOTE: Every time the device has been turned on, the latest user will be displayed.

Working time

It indicates the total time the device has been used for stimulation treatments.

Setup

By selecting setup, the following screen will appear:



- **Backlight time**

It permits the user to modify the duration of the backlight during the stand-by phases, by pressing P+ and P-.

- **Contrast**

It permits the user to modify the contrast level in the display, by pressing P+ and P-.

- **Auto shut off time**

It permits the user to set the automatic shut-down after a certain period of inactivity. Press P+ and P- to regulate the time.

- **Language selection**

It permits the user to choose among 5 different languages. Press P+ and P- to select the language and press OK to confirm.

- **Service sounds**

It permits the user to enable (ON) or disable (OFF) the acoustic tones emitted by the unit.

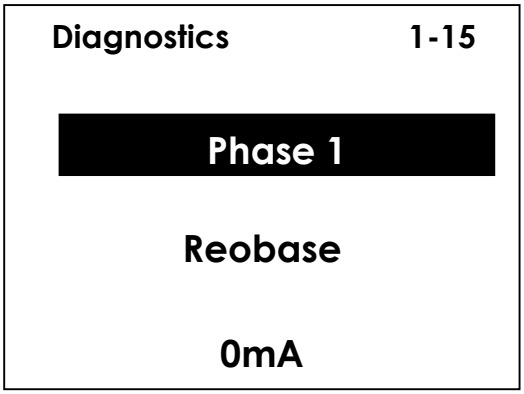
- **Battery info** (see p. 19)

Diagnostics

The device proposes a complete protocol to find the best parameters to stimulate a denervated muscle. The parameters can be easily defined and stored.

Program name insertion

Use the LEFT and RIGHT buttons to select the letters and confirm with OK. To delete a letter, move the cursor on "Delete". After typing the program name, select "Continue".

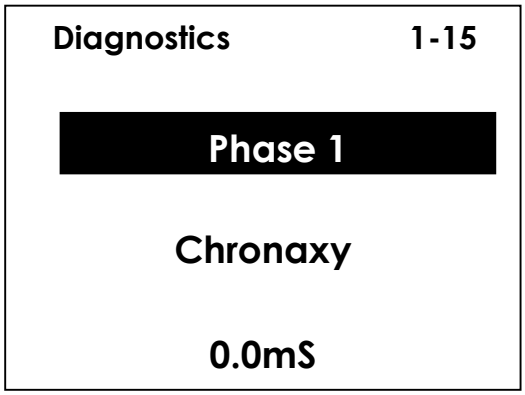


Reobase calculation

Use the P+ button to increase the intensity. When the first motor response is perceived, the value of the corresponding intensity can be stored by pressing OK. This value corresponds to the reobase, which is the lowest value of intensity which obtain the excitability through a long-lasting impulse. The obtained value will be used to calculate the chronaxie.

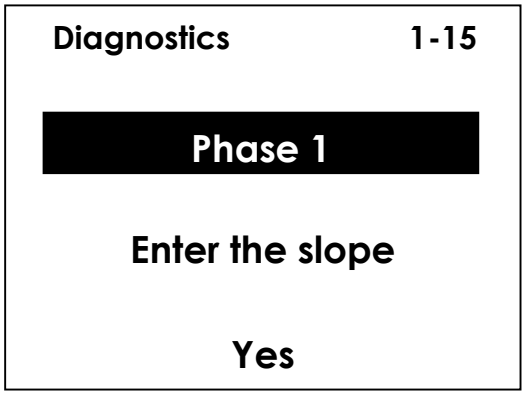
N.B. The absolute value of the reobase depends on the position and the dimension of the used electrodes; it sets the contractile value of the muscle and of its trophism. It is recommended to use small-size electrodes (from 32 to 50 mm diamater).

Chronaxy calculation



The device automatically selects a value of intensity equal to the double quantity of the reobase. The amplitude of the impulse is set automatically to the minimal value. The operator has to gradually increase the value of the amplitude of the impulse. When the first motor response is clearly perceived, the therapist can confirm the amplitude of the impulse by pressing OK.

Slope calculation



After storing the chronaxie value, the slope value of the impulse have to be set: thus the impulse is transformed from rectangular to triangular-trapezoidal. Use the P+ and P- buttons to modify the value of the slope and confirm with OK. Continue by increasing the value intensity until the stimulation is reached. The value of slope and, therefore, the value of intensity can be modified again in the setting screen.

	Reobase	**20mA**
2x	**Reobase**	**40mA**
	Chronaxy	**1,10 mS**

Name	
Rate Ramp up:	**Intensity**
90°	**40 mA**

NOTE: The programs created in the diagnostics menu are saved in the PROGRAMMING area where they can be executed.

Results

Chronaxie inferior to 1 millisecond: the muscle is normally innervated.

Chronaxie included between 1 and 10 milliseconds: this moderate increase of the chronaxy reveals a weak denervation rate that does not necessarily demand a preventive treatment, considering the limited number of denervated fibers.

Chronaxie included between 10 and 20 milliseconds: an evident increase in the chronaxie and the presence of spontaneous activity reveal that a certain number of motor unities is inhibited while others are working. The muscle is partially denervated.

The treatment consists of stimulating the denervated fibers in a selective way, possibly eliminating the participation of healthy fibers. This is possible thanks to the use of a progressive slope of trapezoidal or triangular currents.

Advanced chronaxie, higher than 20 milliseconds: characterized by the absence of voluntary activity. A chronaxie from 20 to 40 milliseconds reveals a complete denervation that is a total interruption of the nervous conduction. The treatment is performed with rectangular currents of long duration (100 or 300ms).

 **Turn off**

It permits the user to turn off the device.

ACTION PRINCIPLES

Muscular electrostimulation

Electrostimulation is a technique which, by means of electric pulses acting on the muscle motor points (motoneurons), causes muscular contractions similar to voluntary contractions.
Each side of the human body approximately includes 200 muscles (about 400 muscles overall) most of which are striated or voluntary.

The physiology of muscular contraction

The skeletal muscle performs its functions through the contraction mechanism.
When a person decides to make a movement, the motor center of the brain sends an electric signal to the contracting muscle.
When the electric signal reaches the muscle, the motor plaque of the muscle surface produces the depolarization of the muscle membrane and the release of CA++ ions inside it. The Ca++ ions, interacting with the actin and myosin molecules, activate the contraction mechanism which leads to the shortening of the muscle.
The amount of energy needed for the contraction is provided by the adenosine triphosphate (ATP) and is supported by an energy recharging system based on aerobic and anaerobic energy mechanisms which use carbohydrates and fats. In other words, electric stimulation is not a direct source of energy but it works as a tool that causes a muscular contraction.
The same type of mechanism is activated when the muscular contraction is produced by the EMS; they have the same function of a pulse naturally transmitted by the motor nervous system. When the contraction is over, the muscle relaxes and returns to its original state.

Isotonic and isometric contraction

An isotonic contraction occurs when, during a movement, the interested muscles exceed the external resistance by shortening, thus provoking a constant state of tension in the ends of the tendons. When the external resistance impedes its movement, the muscular contraction, instead of provoking a shortening effect, causes an increase in the tension at the extremes; this is an isometric contraction. In the case of electrostimulation, an isometric stimulation is normally used because it permits a more powerful and efficient contraction.

The distribution of different types of fibers in the muscle

The relation between the two main categories (type I and type II) can vary noticeably.
There are muscular groups that are typically made up of type I fibers, like the soleus, and muscles which are made up of only type II fibers, like the orbicular muscle, but the majority of the human body muscles are composed of a combination of the

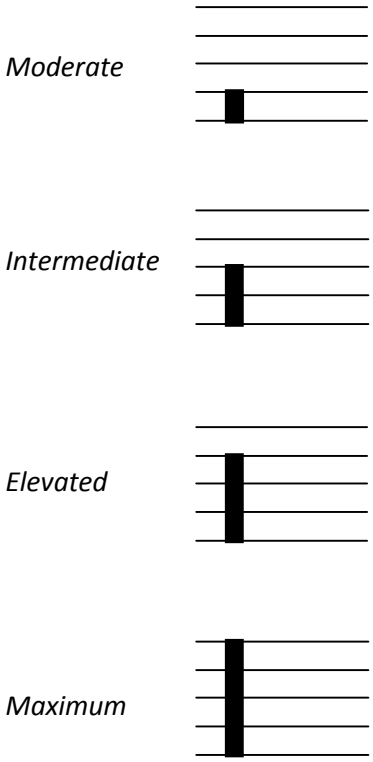
two types. Studies on the distribution of fibers in the muscle mass have highlighted the close relation between the motoneuron (tonic or phasic) and the functional characteristics of the fibers it innervates and, moreover, they have shown how a specific motor activity (particularly sports) can bring about a functional adaptation of fibers and a change in their metabolic characteristics.

Motor unit type	Contraction type	Contraction frequency
Tonic ST	Slow contraction I	0 - 50 Hz
Phasic FT	Fast contraction II	50 - 70 Hz
Phasic FTb	Fast contraction II b	80 - 120 Hz

Stimulation intensity

The current intensity necessary to obtain a muscular contraction is personal and depends on the position of the electrodes, the underlying adipose tissue, sweating, the presence of hair on the treatment field, etc.. Therefore, the same current intensity may generate different feelings according to different persons, days and sides of the body. During the same working session, it will be necessary to regulate the intensity in order to obtain the same level of contraction because of the accommodation phenomenon. The current intensities recommended in the different phases are proposed as indicative values, and each person should modify these levels according to his/her personal needs.

- Moderate intensity. The muscle does not tire, not even during prolonged treatments. The contraction induced is tolerable and pleasant. This is the first level on the graphic representation of intensity.
- Intermediate intensity. The muscle is visibly contracted but the stimulation does not cause the movement of the joints. This is the second level on the graphic representation of intensity.
- Elevated intensity. The muscle is contracted substantially. The muscular contraction will cause the extension or bending of the limb if this is not blocked. This is the third level on the graphic representation of intensity.
- Maximum intensity. The muscle is contracted maximally. This is an intense treatment that should be performed only after having executed different applications at lower intensity.



The descriptions of the treatments contain the recommended intensity levels.
NOTE: The recommended current levels are only indicative.
NOTE: For Microcurrents programs, it is not necessary to set an intensity value (in mA) because this is preset and automatically activated for all phases.

Open circuit

GENESY is equipped with a monitoring device of power emissions. If the operator increases the intensity level above 10 mA and the circuit is open (the cables are not connected to the device and the electrodes are not applied to the skin), the electrostimulator immediately sets the intensity to 0 mA. Therefore, before starting a program, ensure that the cables are connected to the device and that the electrodes are not worn-out, as it their conduction capacity may be reduced.
NOTE: Use the Microcurrents programs only on channels 1 and 3 with the gray cables supplied. If the cables are not connected or they are of the wrong type, the program will not start. Check the cables and the connections.

❖ Tens

Transcutaneous Electrical Nerve Stimulation (TENS) is a selective stimulation of the large fibers of the peripheral nerves contributing to the closing of the gate entrance for the nociceptors and increasing the release of endorphinic substances, thus

reducing pain intensity. Therefore TENS has been conceived to treat the severe and chronic pain related to the main musculoskeletal disorders.
The decrease of pain following to the TENS current application is induced by these factors:
a. Gate control theory
b. Endorphin secretion
c. Different sedative effects in relation with the frequency

Gate theory

If the electric signals that lead information related to pain to the brain are stopped, also the pain perception is eliminated. If, for instance, we hit our head against an object, the first thing we do is massaging the area affected by the trauma. Thus, we stimulate the receptors related to touch and pressure. TENS in continuous mode and in frequency modulation can be used to generate signals similar to touch and pressure signals. If their intensity is sufficient, their priority is so high that it prevails on the pain signals. Once the priority is acquired, the gate related to the sensory signals is opened and gate related to pain is closed, thus impeding the passage of these signals to the brain.

Endorphin secretion

When a nervous signal proceeds from the pain area to the brain, it spreads through a chain of connections joined together and called synapse. The synapse can be seen as the space between the end of a nerve and the beginning of another. When an electric signal reaches the end of a nerve, it produces substances called neurotransmitters that pass through the synapse and activate the start of the next nerve. This process is repeated until the signal reaches the brain. The opioids involved in the pain reduction slide in the synapse space and impede the neurotransmitter propagation. In this way a chemical block of the pain signals occurs. The endorphins are opioids naturally produced by the body to tackle the pain and they can act both on the marrow and on the brain, in this way they are effective analgesics. Tens can increase the natural production of endorphins and, therefore, they decrease the pain perception.

Different effects in relation with the frequency

Depending on the frequency used, GENESY produces immediate short-term antalgic effects (higher frequencies) or progressive long-term effects (lower frequencies).

❖ Microcurrents

Compared with conventional electrostimulation, which uses electrical current in the milliampere (mA) range, microcurrent electrostimulation uses currents whose intensity is included between 10 and 500 µA (microamperes, which is a millionth of

an ampere). Numerous studies showed that the currents in microamperes increase the APT synthesis.

Usually the MENS therapy has two different phases: the first aims to reduce the pain sensation perceived by the patient, while the second promotes the protein and APT synthesis, accelerating the tissue reparative processes. Usually the treatment duration ranges between 15 and 30 minutes for the first phase and between 5 and 10 minutes for the second phase. MENS are an interesting instrumental therapy that can be used in many disorders, and the use of MENS together with other instrumental therapies such as for example laser and TENS can provide excellent clinic results that are usually difficult to reach.

❖ Ionophoresis

Ionophoresis is an electrotherapy transmitting pharmacological substances inside the tissue thanks to continuous, unidirectional electric currents.

Ionophoresis is based on the ionic dissociation of medicinal substances with low molecular weight, after being dissolved in water.

Knowing whether, after being dissociated under ionic form, the active part of the medicine has positive or negative charge is fundamental, since it allows the correct positioning of the drug according to the direction of the electric flux.

The ions of the medicinal substance are transmitted inside the organism through cutaneous areas which oppose a low resistance to the current. Thus, the cellular membranes are electrically modified by the ions permeating them.

❖ Denervated

The stimulation of a denervated muscle differs from the stimulation of a healthy muscle, since the activation of muscular fibers requires particular currents.

In the presence of a traumatic lesion of the peripheral nerves, measuring the chronaxie determines whether the denervation is limited, partial or total. Excitomotor treatments aim to maintain the trophism and to limit muscular sclerosis, thus at the end of the denervation process – which may last several months – the functionality of the muscle is maintained. The correct setting of the stimulation parameters is fundamental for the efficiency of the treatment; therefore, the parameters have to be defined according to the single patients and have to be adapted as the treatment proceeds.

Rectangular currents

The rectangular current is characterized by a single rectangular impulse, which varies quickly from zero to the maximum value of the set up intensity, from a contraction duration equal to the impulse duration, from a recovery time corresponding to the time of muscular recovery. The rectangular shape of the impulse causes the muscular contraction, the duration of the impulse determines a

selective contraction of denervated fibers and the impulse average value (alternated polarity) – corresponding to zero – avoids all phenomenon of ionization of the dermis. The rectangular impulses are mainly used on totally denervated muscles. The program varies according to the amplitude of the impulse and the duration of the rest.

Triangular currents

The triangular current reaches the maximum of the set up intensity through a linear ramp-up. If combined with sufficiently long impulses, the current determines a valid contractile response of denervated fibers (controlled by damaged nerves), without stimulating the adjacent, innervated – healthy – fibers. Logically, since the triangular impulse are excitomotor and contract denervated muscles, it will be followed by a break where there is no contraction. The polarity of the impulses is alternated in order to avoid the phenomenon of dermis ionization. Because of the adaptation of the nervous fibers to the slow increase of the stimulus intensity and the absence of troubles to the patient, the triangular current is used to stimulate denervated muscles totally and partially. The selective stimulation of fibers occurs without involving the innervated fibers, which may affect alternated rectangular currents because of the impulse rapid rise. The program varies according to the amplitude of the impulse and the duration of the rest.

Trapezoidal current

Trapezoidal impulses are mainly used on partially denervated muscles. The program varies according to the amplitude of the impulse and the duration of the rest.

❖ Interferential current

The interferential current is a sine current alternated to medium frequencies (2500 Hz, 4000 Hz, or 10000 Hz), modulated in amplitude, characterized by a high capacity to penetrate tissues and by an optimal tolerability, even in particularly sensitive patients. The analgesic action of bipolar interferential currents, with frequency of modulation included between 0 and 200 Hz, is led back to mechanism of the gate control, to the stimulation of the inhibitory mechanism, to the peripheral block of the transmission of the pain, to the removal of the substances that cause pain of the affected region, as it happens for TENS current. By varying the frequency of employed modulation, also an excitomotor effect can be exploited, that contributes to the return of the venous flow activating the "muscle pump". They are called interferential currents because they originate and interfere with the tissues in points in which two medium frequency currents meet.

❖ Kotz

Kotz currents consist of a sine current of intermediate frequency (2500 Hz), modulated in worksets alternating 10 ms of work and 10 ms of pause, which generates a phase of muscular CONTRACTION and one of recovery.
As other intermediate-frequency currents, Kotz currents contribute to the penetration into deeper muscles and may be preferred to lower frequency currents (e.g. rectangular biphasic and faradaic).

PROGRAM LIST

Sport Program List

Demo
Capillarization
Warm-up
Pre-competition warm-up
Active recovery
Maximum strength
Endurance strength
Explosive strength
Aerobic endurance
Reactivity
Post-competition recovery
Decontracting
Hypertrophy
TOTAL 53

NOTE: some programs are divided according to body areas.
CE0476 does not refer to non-medical treatments.

Fitness-Physical Shape Program List

Firming
Bio-Pulse firming
Sculpting
Bio-Pulse sculpting
Toning
Mass Building
Body sculpting
Definition
Jogging
Anaerobic fitness
Aerobic fitness
Cramps
TOTAL 29

NOTE: some programs are divided according to body areas.
CE0476 does not refer to non-medical treatments.

Beauthy-Aestethics Program List

Drainage
Lipolysis
Toning massage
Skin tone improvement
Connective massage
Post-pregnancy drainage
Post-pregnancy lipolysis
Post-pregnancy firming
TOTAL 16

CE0476 does not refer to non-medical treatments.

Medical currents – Microcurrents Program List

The following programs are medical

Tendon inflammation
Knee osteoarthritis
Acute pain
Epicondylitis
Scapulohumeral periarthritis
Muscle restoration
Contusion
Articular pain
Edema
Skin ulcer
Sciatica
Lumbago
Brachial neuralgia
Stiff neck
Whiplash
Cervical spondylosis
Shoulder sprain
Carpal tunnel
Knee sprain
Patella tendon inflammation
Ankle sprain
Achilles tendon inflammation
Rotator cuff inflammation
TOTAL 23

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

NOTES ON THE USE OF MICROCURRENT PROGRAMS

This paragraph refers to the use of microcurrent programs.

The microcurrent programs differ from normal TENS and EMS programs:

- While conventional electrostimulation (e.g. TENS) uses current in the milliamperes range, microcurrent electrostimulation uses currents in the microampere range, which are imperceptible by humans. Microcurrents programs **do not arouse perceptible stimulation in the patient**.
- When running a Microcurrents program, **use exclusively the special gray cables connected to the outlets of channels 1 and 3**. If the cables are not connected or correspond the wrong type, it will not be possible to start the program. Check the connections and the cables.
- **The Microcurrents programs have preset intensity levels**, therefore it is not necessary to set them. When a Microcurrent program is activated, the electrostimulator automatically resets the intensity to the correct level. This value should not be altered during the execution of the program.
- The Microcurrents programs cannot be run in the "2+2 mode" with multiple treatments. If trying to select a Microcurrents program in "2+2 mode", the electrostimulator will emit an error tone.

If, according to your therapist, you wish to modify the treatment protocol altering the intensity, press and hold the UP and DOWN button for 3 seconds.

Medical currents – Denervated Program list

The following programs are medical

Triangular 1
Triangular 2
Triangular 3
Trapezoidal 1
Trapezoidal 2
Trapezoidal 3
Rectangular 1
Rectangular 2
Rectangular 3
TOTAL 9

The level of denervation and the relative program have to be determined by a doctor, after using an electromyography .

Alternatively, the doctor can proceed empirically, starting the stimulation with a triangular treatment (for the denervation may be partial) and eventually, in case of no muscular response, moving to the trapezoidal and finally to the rectangular treatment.

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

Medical currents – Ionophoresis Program list

The following programs are medical

Ionophoresis
TOTAL 1

Non-professional users can perform the ionophoresis treatment only after consulting the specialist, who will prescribe the medications to use and give the indications for the type of currents to use.

DO NOT APPLY THE MEDICATION DIRECTLY TO THE SKIN. Apply the medication to the absorbing surface of the electrode corresponding to the medication's polarity; the absorbing surface of the other electrode should be dampened with slightly salted water, to increase conductivity.

- To run the Ionophoresis programs, use exclusively one special gray cable connected to the outlet of channel 1. Either the light gray or dark gray cable can be used.
- The Ionophoresis programs cannot be run in the "2+2 mode" with multiple treatments.
- The IONOPHORESIS programs are stored in the "Last 10 Executed" menu but cannot be run in AUTO STIM mode.

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

Medical currents-Pain Antalgic (Tens) Program List

The following programs are medical

Endorphinic Tens
Muscle injuries
Sciatica
Cervical pain
Epicondylitis
Carpal tunnel
Hip osteoarthritis
Knee pain
Menstrual pain
High frequency antalgic Tens
Conventional antalgic Tens
Modulated antalgic Tens
Nerve compression
Muscle pain
Chronic pain
Post-surgical pain
Scapulohumeral syndrome
Low frequency antalgic Tens
Spinal osteoarthritis
Spinal osteoporosis
Ankle osteoarthritis
Muscle tendon injury pain
Knee osteoarthritis
Chronic lumbago
Trapezius pain
Fracture pain
Acute pain post inguinal hernia
Whiplash
Osteoarthritis
Rotator cuff tendinitis
Bursitis-tendinitis
Post-surgery pain
Spinal compression pain
TOTAL 33

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

Medical currents-Rehabilitation Program List

The following programs are medical

Swollen ankles
Atrophy
Hemiplegia-upper limbs
Hemiplegia-lower limbs
Recovery after ACL surgery
Functional recovery
Ankle re-education
Leg re-education
Muscle spasms
Shoulder subluxation
Vastus medialis reinforcement
Total 11

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

In addition to the rehab protocol, in the Rehabilitation program list you will find also the following programs:

Agonist-Antagonist	
Muscle reinforcement	
Motor point pen	

Incontinence program list (inside the Rehabilitation area)

The following programs are medical

Mixed incontinence
Stress incontinence
URGE incontinence
TOTAL 3

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

Type

The urology programs require the use of specific endovaginal and endorectal electrode probes, certified according to the Directive for Medical Devices 93/42/EEC. These are bipolar probes with a 2-mm female adapter which attaches to 2-mm male cables.

Warnings

Urological electrostimulation is a medical application, which must be performed under medical supervision.

Use

To use the probe electrode correctly, follow the instructions provided by the manufacturer and given by the physician.

Maintenance

For cleaning, sterilization and disinfection, refer to the manufacturer's instructions.

Suggestions

In case of deterioration of the probe electrode, replace it immediately.

Action Now program list

Action Now programs are normal EMS programs, with the only difference that each single action will start only after pressing * button. The Action Now programs are particularly useful to combine and synchronize the electric stimulation with a voluntary action.

This program is particularly suggested in the sports field, for athletic preparation, since the muscle contraction induced by the stimulator can be combined with a dynamic or isometric workout.

Operating mode: contraction will start after pressing * button. To interrupt contraction before the end of contraction time, press * button again. In this case the program will reset the rest period and will start at the beginning of the following ramp, which can be activated by the user by pressing * again.

Action Now program list includes 7 parameter combinations (only for Genesy 600).

Area	Name	Hz	Ramp-Up time	Contraction time
Upper limbs	Action 0,2 - 1 s	30	0,2	1
	Action 0,5- 1s		0,5	1
Lower limbs	Action 1 - 1 s	50	1	1
	Action 2 - 1 s		2	1
Trunk	Action 3 - 2 s	80	3	2
	Action 4 - 2 s		4	2
	Action 2 - 6 s	100	2	6
TOTAL	84 programs			

CE0476 does not refer to non-medical treatments.

“3S” Serial Sequential Stimulation Program List

The “3S” programs are characterized by a delayed activation of channels 3 and 4 compared to channels 1 and 2. The Serial Sequential Stimulation permits the stimulation of the musculature in kinetic chain thanks to the differentiated activation times of the muscular groups involved.
In the aesthetic field, the 3S programs allow the creation of a real sequential drainage: the sequential contraction of the different muscular groups produces a deep pressure wave in the musculature that causes the drainage of the interstitial fluid and contributes to the return of the venous blood to the heart.

Operating mode:

The execution of these programs is exactly the same as any other EMS programs. The only difference consists of a delayed contraction of the channels.

The following programs are not medical.
The 3S program list includes 54 parameter combinations.

Area	Name	Hz	Delay time
Upper limbs	SerSeqStim 0,1 s	30	0,1
	SerSeqStim 0,2 s		0,2
	SerSeqStim 0,3 s		0,3
	SerSeqStim 0,5 s		0,5
Lower limbs	SerSeqStim 1 s	50	1
	SerSeqStim 2 s		2
	SerSeqStim 3 s	80	3
Trunk	SerSeqStim 4 s		4
	SerSeqStim serial		11
Total	54 Programs		

"Delay time" refers to the delay seconds that the next pulse needs to start.
CE0476 does not refer to non-medical treatments.

Medical currents - Interferential Program List

The following programs are medical

Knee Osteoarthritis
Acute Lumbago
Cervical pain
Chronic Lumbago
Frozen shoulder
Post-surgical pain
TOTAL 6

Because of the presence of clinical programs, this product is a medical device. Therefore it is certified by the Kiwa Cermet Italia s.p.a. n°. 0476 according to 93/42/CEE directive for medical devices. The certification covers clinical applications.

Electrotherapy

The program list of electrotherapy permits to choose the current parameters personally, in order to ensure that the specialist have the maximum precision in the currents he/she uses.

NEMS Electrotherapy program list includes 48 parameters combinations.

NEMS	Frequency
	2
NEMS 4s-8s	5
NEMS 4s-12s	10
NEMS 4s-20s	20
NEMS 8s-8s	50
NEMS 8s-12s	80
NEMS 8s-20s	100
	120
TOTAL programs 48	

Russian Electrotherapy program list includes 44 parameters combinations

	Time	Frequency
KOTZ 2500 HZ		1
	5s/5s	5
	4s/12s	10
	10s/10s	30
	10s/20s	50
	10s/30s	80
		100
TOTAL programs	44	

NOTE
For further information about the programs, please visit our website, where you can download a complete guide containing the indications to perform the treatment correctly.

GENERAL NOTES ON ELECTRODE PLACEMENT

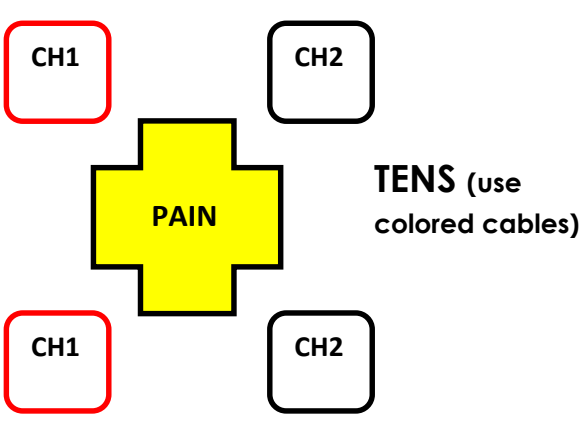
The correct positioning of the electrodes and the correct choice of their size are fundamental to guarantee the efficiency of the treatment.
The images at the end of the present manual illustrate the different sizes of the electrodes and their positioning. For further information, please visit our website www.globuscorporation.com where you can find a wide range of images and videos on the placement of the electrodes.
NOTE In all the programs that cause an important muscle contraction (such as, for example, strength, hyperthrophy, toning and firming programs...) it is important to place the electrode on the muscle **motor point**, which is the most sensitive point to stimulation.
If the electrode is not placed exactly on the motor point, the contraction could be small and/or annoying. In this case it is necessary to move the positive electrode a few millimeters up to feel an effective and comfortable contraction.

The position of the body during the stimulation

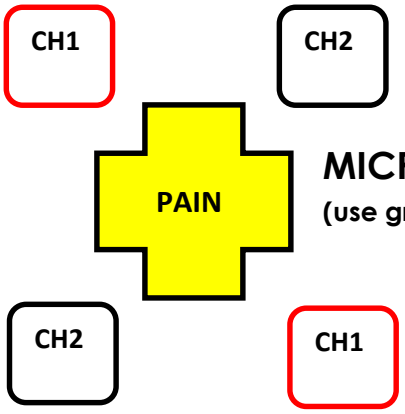
The position of the body during the electrostimulation session depends on the body part involved and on the program type. During the treatment execution with high intensities, we suggest blocking the limbs in order to work in isometry. For instance, if you want to treat the quadriceps with a strength program, we suggest carrying out the treatment while sitting with the foot blocked, in order to avoid an involuntary leg extension during the contraction phase.
In all the programs with low intensity (massages, decontracting, drainage programs), comfort is the main aspect to be considered.

Electrode placement for Tens programs

In the following pages of this manual you can find the images with the correct electrode positioning for tens and microcurrent treatments. If the localization of your pain is not included in the images represented, you can position the electrodes by forming a "square" on the aching area, as shown in the example below.

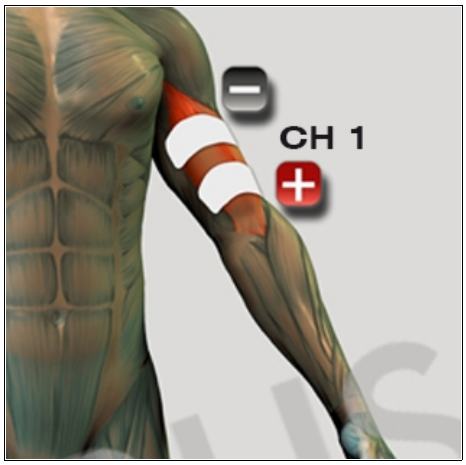


TENS (use colored cables)

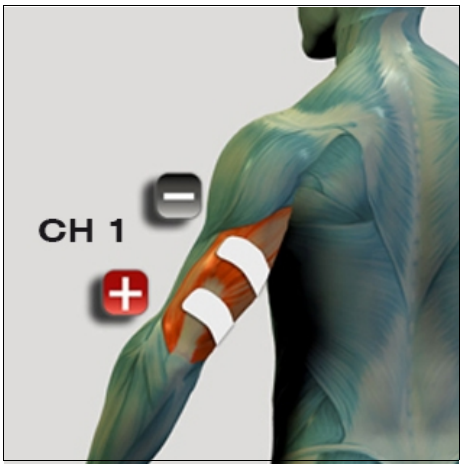


MICROCURRENTS
(use gray cables)

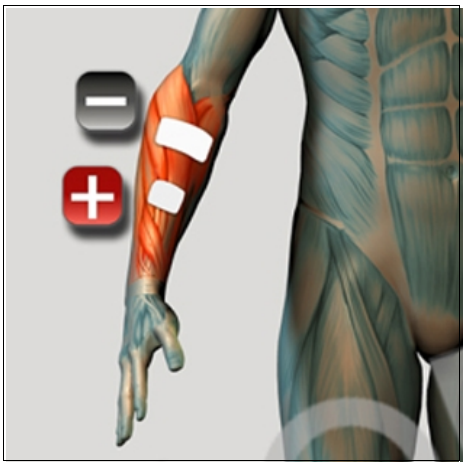
ELECTRODE PLACEMENT



Biceps brachii muscle

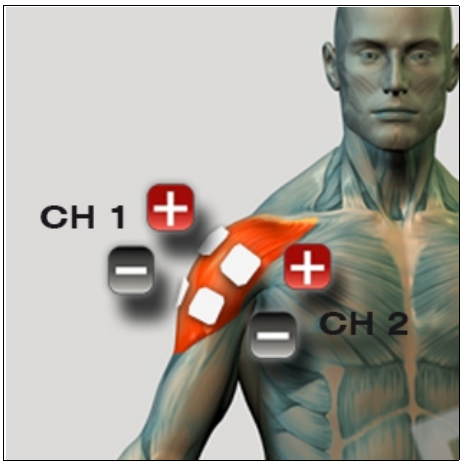


Triceps brachii muscle

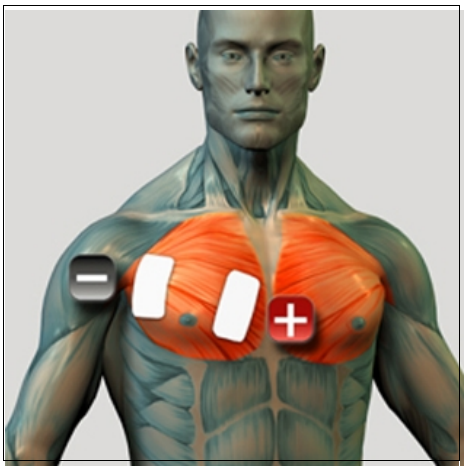


Flexor carpi muscle

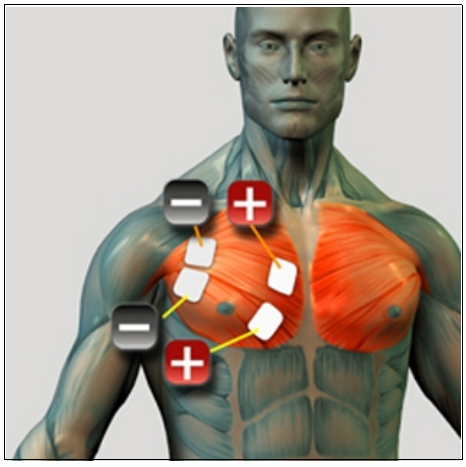
Extensor carpi muscle



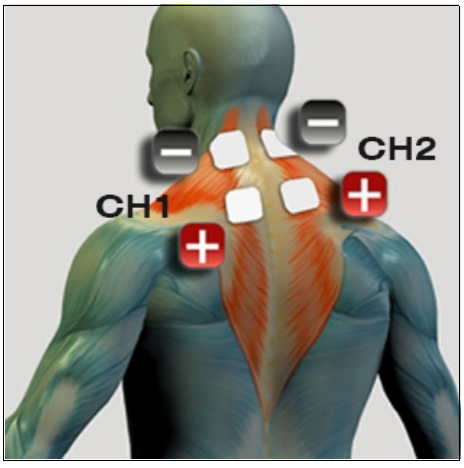
Deltoid muscle



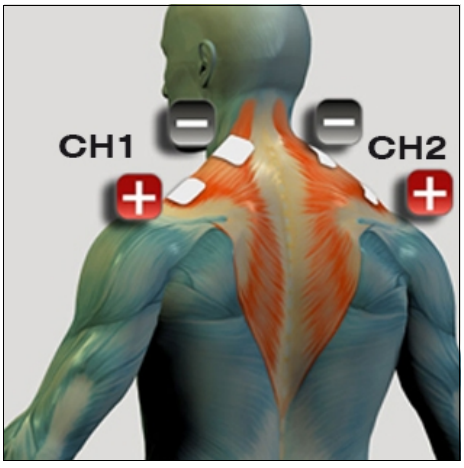
Pectoral muscle



Pectoral muscle

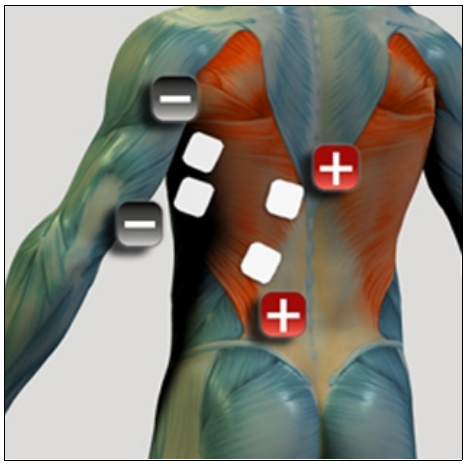


Trapezius muscle

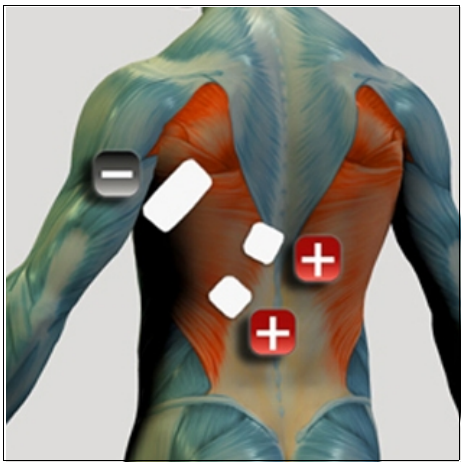


Trapezius muscle

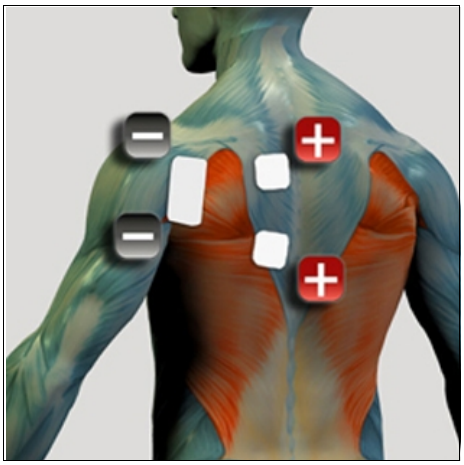
ELECTRODE PLACEMENT



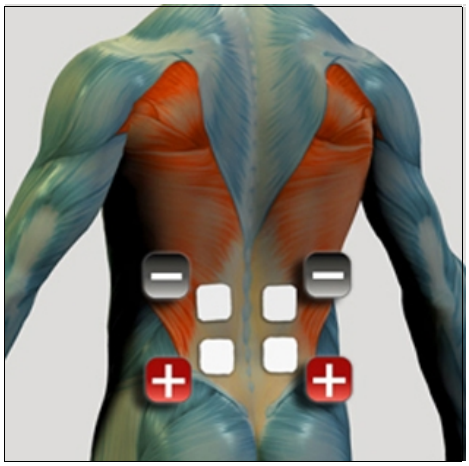
Latissimus dorsi muscle



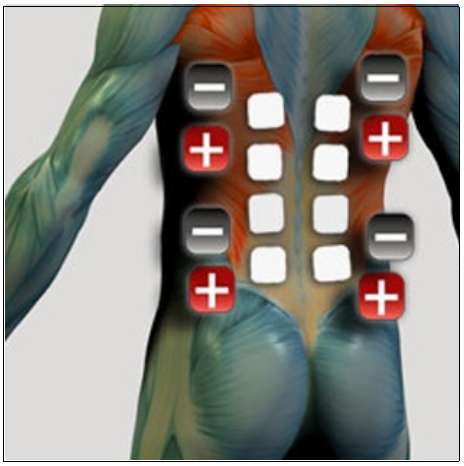
Latissimus dorsi muscle



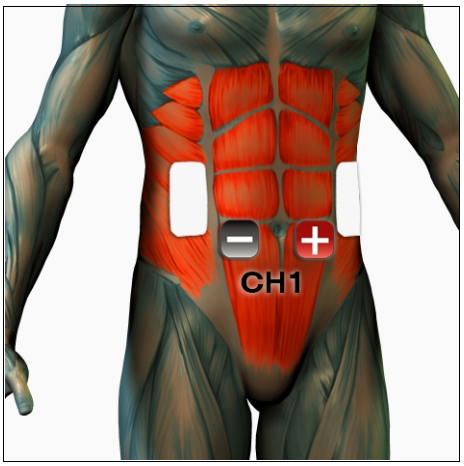
Infraspinatus muscle



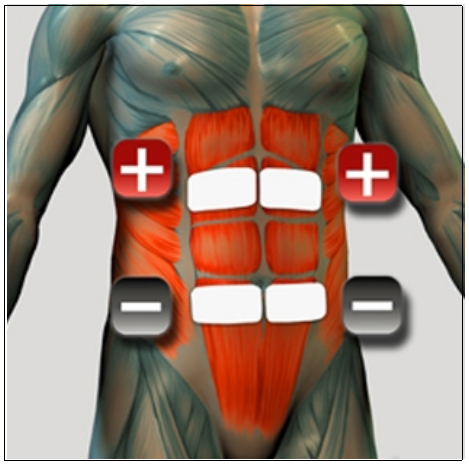
Lumbar muscles



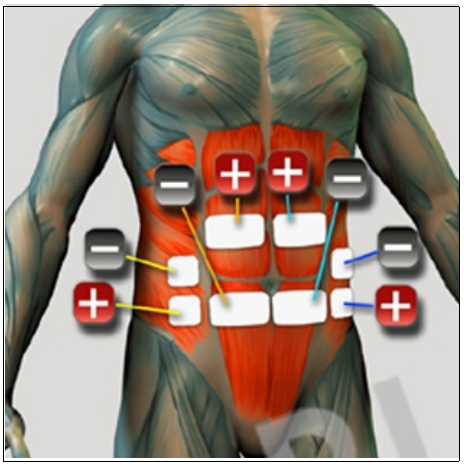
Lumbar/Dorsal muscles



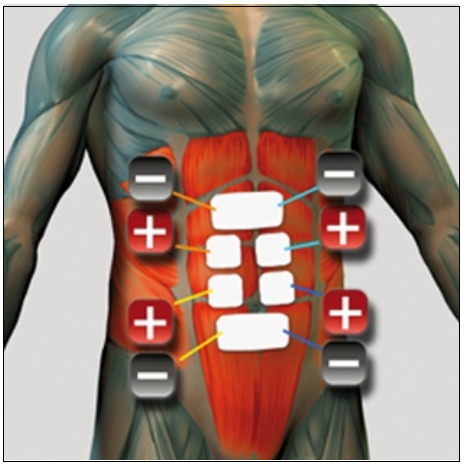
Abdominals



Abdominals

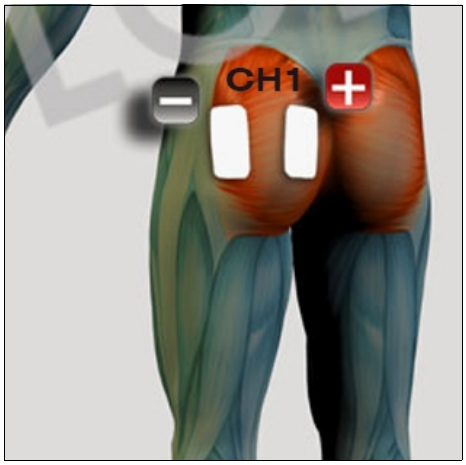


Abdominals

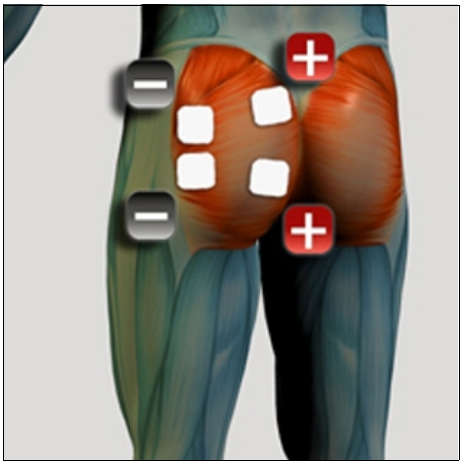


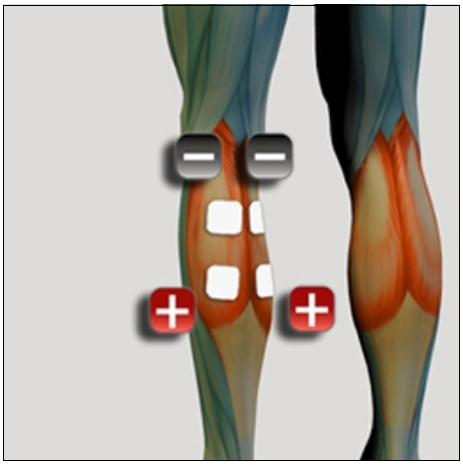
Rectus abdominis muscle

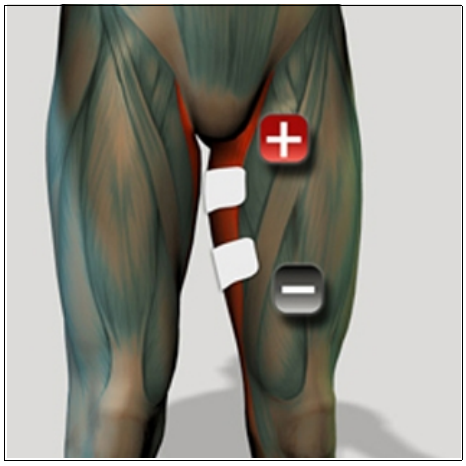
ELECTRODE PLACEMENT

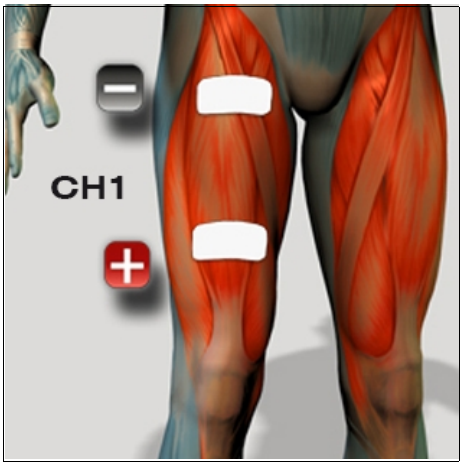


Gluteus

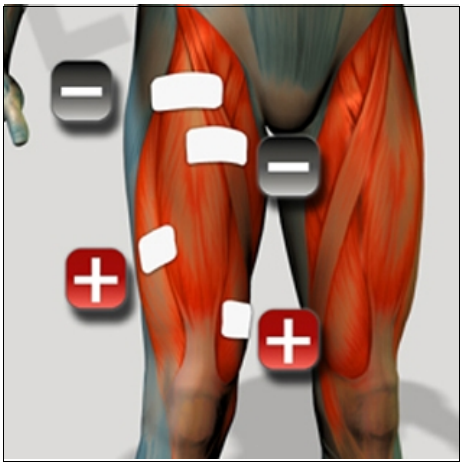

Gluteus

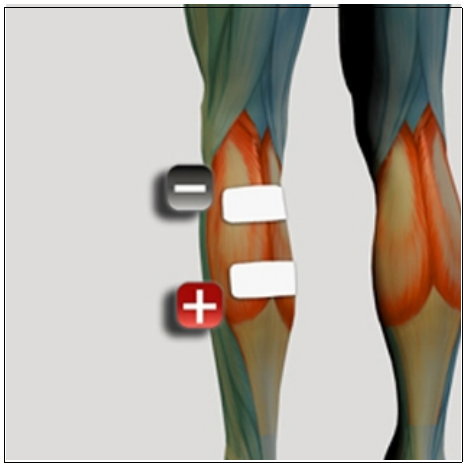

Biceps femoris muscle

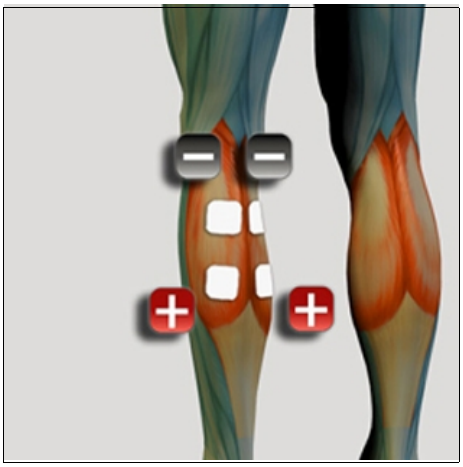

Adductors

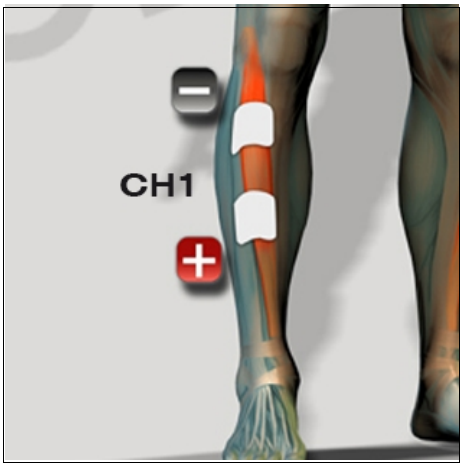


Rectus femoris muscle


Quadriceps

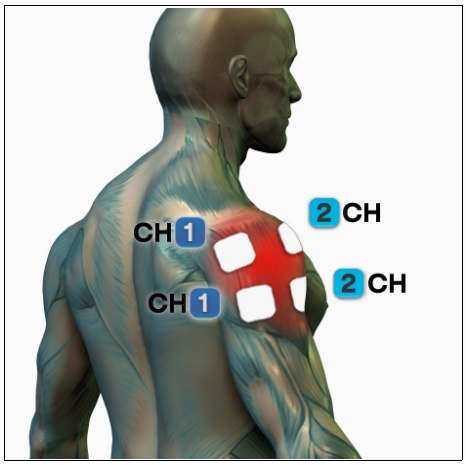

Gastrocnemius muscle


Gastrocnemius muscle

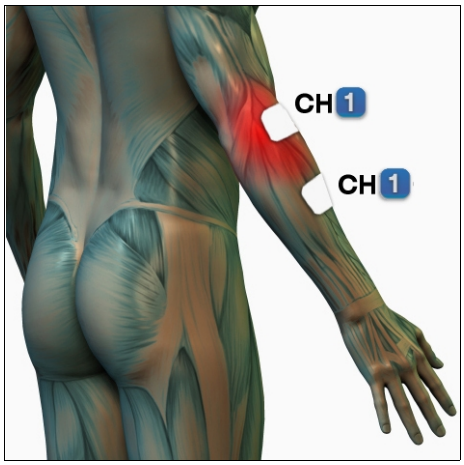


Tibialis anterior muscle

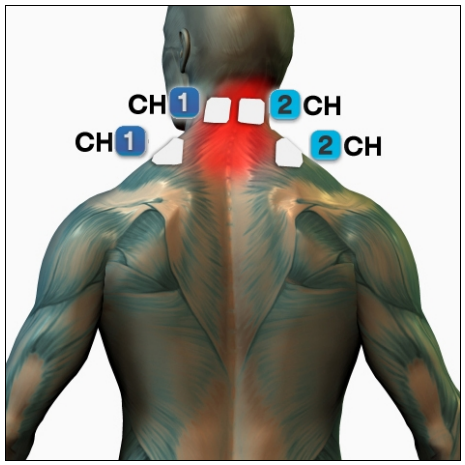
ELECTRODE PLACEMENT FOR TENS TREATMENTS



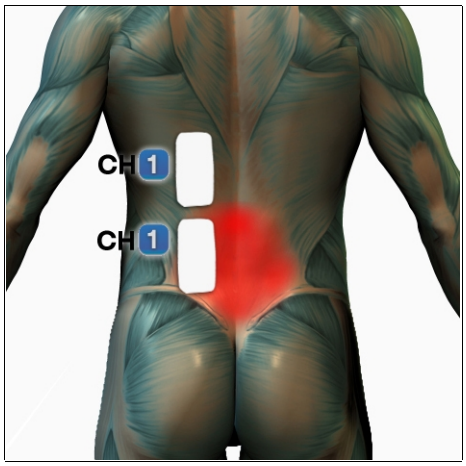
Shoulder pain



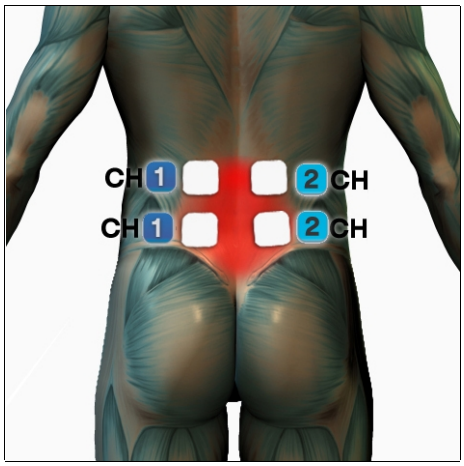
Elbow pain



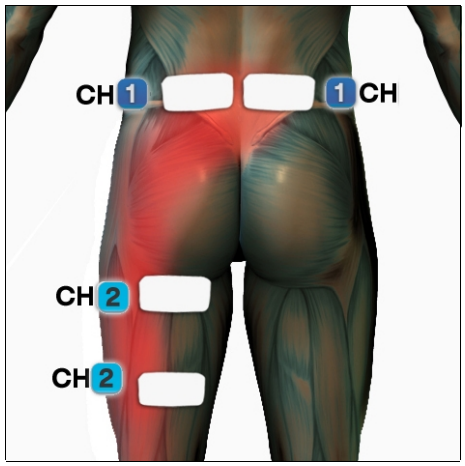
Cervical pain



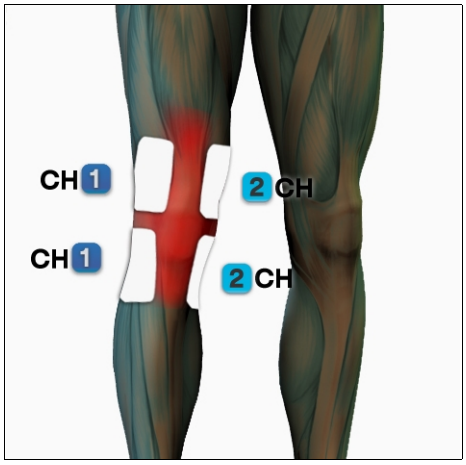
Lumbar pain



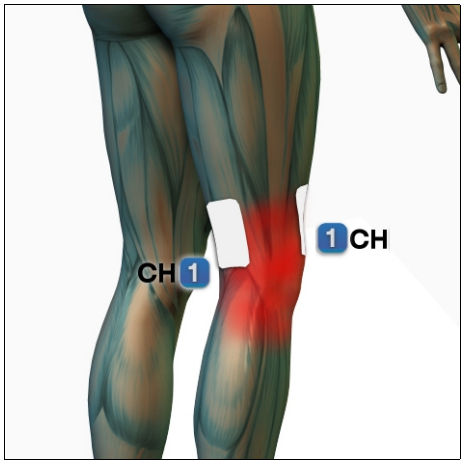
Lumbar pain



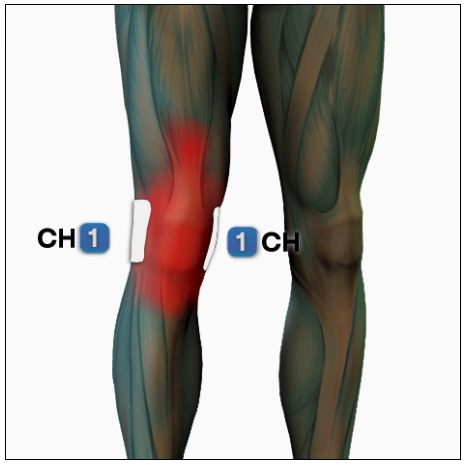
Sciatica



Knee pain

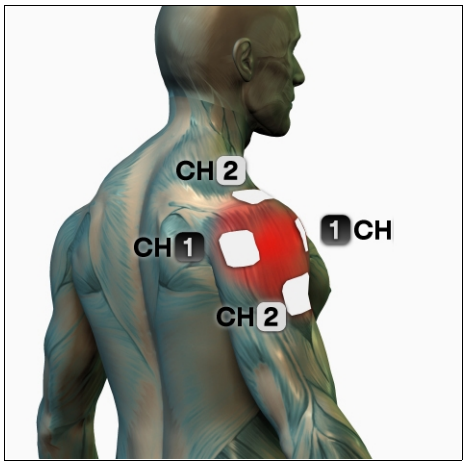


Knee pain

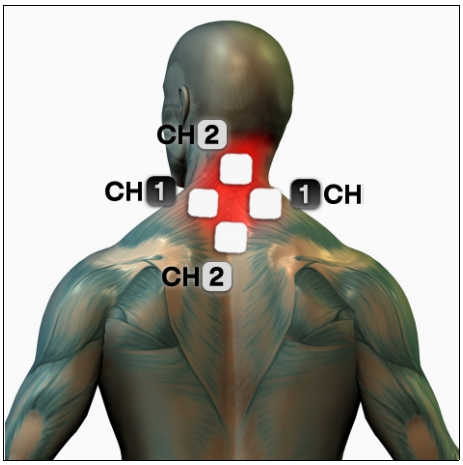


Knee pain

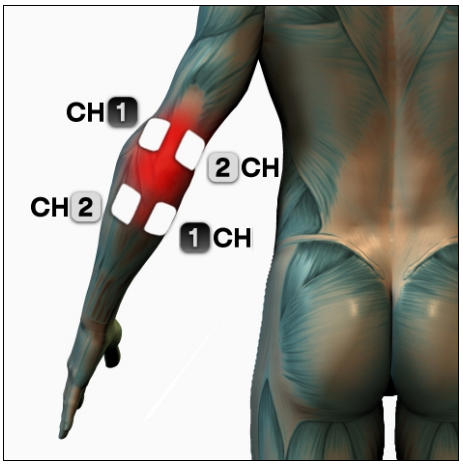
ELECTRODE PLACEMENT FOR MICROCURRENT TREATMENTS



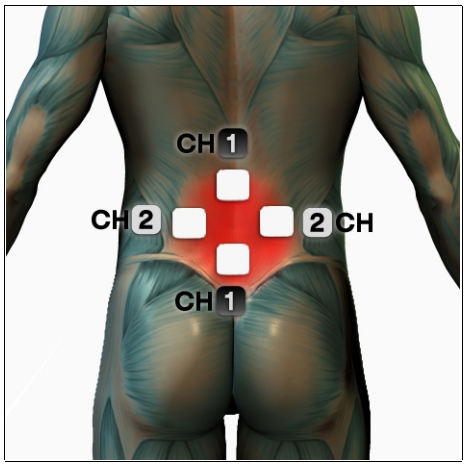
Shoulder pain



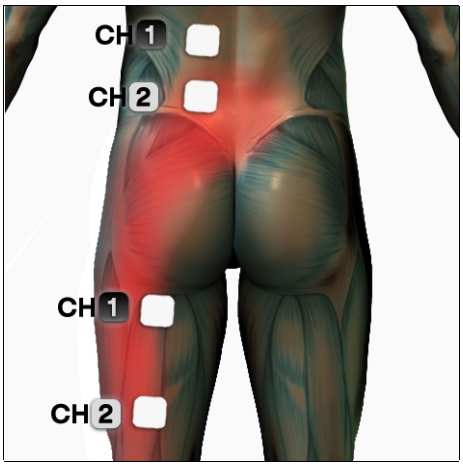
Cervical pain



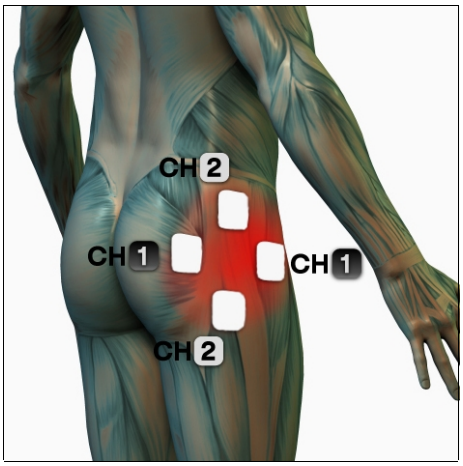
Elbow pain



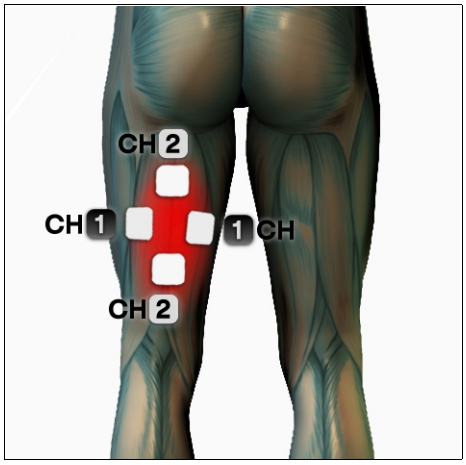
Lumbar pain



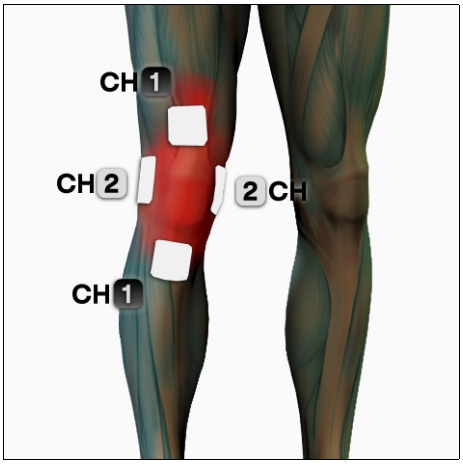
Sciatica



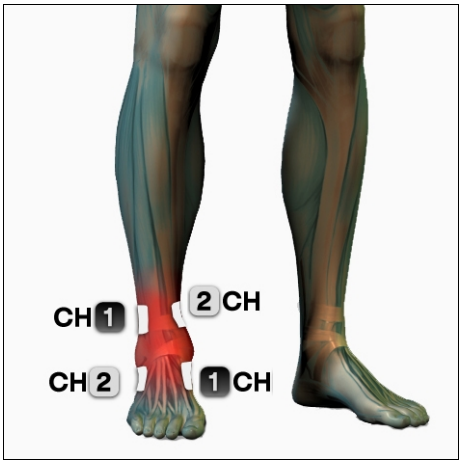
Hip pain



Muscle pain (the electrodes should be placed on the aching area)



Knee pain



Ankle pain

WARRANTY

The device includes a 24-month warranty for the first user, starting from the purchase date, which covers manufacturing flaws and defective materials, on condition that the device is used properly and kept efficiently. The warranty is limited to 12 months if the device is intended for professional use. Warranty coverage is limited in the following cases:

- Six (6) months for accessories subject to wear such as batteries, chargers, power supply units, cables, G-trode handpiece.
- Ninety (90) days for the media containing software such as, for example, CD-ROMs, memory cards, etc...
- The warranty does not include extendable accessories and materials such as electrodes, etc…

The warranty is valid and enforceable in the country where the product was purchased. If the product is purchased in a EU country, the warranty is valid in all member states.

The user has to comply with the following clauses for the warranty to be valid:

1. In case of repairs, the products and its accessories have to be sent in the original package at customer's expenses.
2. The warranty is valid only when the receipt or invoice of the product, indicating the purchasing date of the product, is enclosed.
3. Repairs will neither renew nor extend the warranty.
4. If repairs detect no flaws, the costs of the intervention will be charged anyway.
5. The warranty becomes void if the fault has been caused by: impacts, falls, erroneous or improper use of the product, use of non-original power supply unit or charger, accidental events, alteration, replacement/detachment of the warranty seals and/or mishandling. The warranty does not cover damages caused during shipping by improper packages.
6. The warranty does not cover the inability to use the product, other incidental or consequent costs or other expenses incurred by the purchaser.

NOTE: Before returning the device for repairs, we recommend to read user's instructions contained in the manual carefully and visit Globus website.

When returning your product for assistance, contact your dealer or contact Globus Customer Care. The manufacturer reserves the right to make changes without prior notice. The features and dimensions reported in this manual are not binding.

Frequently Asked Questions

What kind of electrodes should be used for electrostimulation?

Use self-adhesive electrodes, which are practical and improve the quality of stimulation. If used with care, they will last for 25-30 applications. The electrodes should be replaced when they do not adhere to the skin anymore.

Where do the electrodes have to be placed?

The present manual contains a comprehensive electrode placement guide (it is not necessary to respect the polarities indicated): therefore, it is sufficient to comply with the instructions. However, the correct placement of the electrodes can be also determined empirically by using the Find Motor Point Pen: place the electrodes as indicated in the pictures in the present manual and then start the stimulation; move the electrode manually by sliding it along the muscle without removing it from the skin. You will notice a change in contraction according to the different positions of the electrode. Once located the point where the stimulation is higher, decrease the channel intensity to zero (0,0 mA), place the electrode again and increase the intensity gradually.

Use of Y cables. This permits to use more electrodes on the same channel.

It permits the use of more electrodes on the same channel, which allows, for instance, the stimulation of the vastus medialis and vastus lateralis of the quadriceps with one single channel. Do not use for medical applications.

Does the power decrease using Y cables?

The power intensity for each channel does not vary. However, when Y cables are used to split one single channel in two, the current is distributed on a wider muscle area, therefore contraction will be less pronounced. Increase the intensity to obtain the same contraction level.

Can electrostimulation hurt me?

It is very unlikely that electrostimulation damages muscles. However, it is fundamental to increase the intensity gradually, to observe the reaction of the muscle and to avoid keeping the limb completely outstretched. When in doubt, please contact a specialist.

Is it possible to use the electrostimulator during the menstruation cycle?

Electrostimulation may interfere in some way with menstruation, causing anticipation, delay, accentuation or reduction of the cycle; however, these effects are subjective and highly variable. It is recommended to avoid treatments in the abdominal zone during menstruation cycle and immediately before or after it.

Is it possible to use the electrostimulator during lactation?

No collateral effects regarding lactation have been observed so far. Yet, during lactation, it is recommended not to stimulate the thoracic region.

Are dermatological diseases (e.g. psoriasis, urticaria) contraindications for electrostimulation?

Yes. Do not treat areas affected by dermatological diseases.

When will I see the first results?

The aesthetic results of electrostimulation are always subjective. If performing the "Toning program" 3-4 sessions per week regularly, a noticeable result may be observed after 15 days. For Lipolysis and Drainage programs instead, 40 days of treatment are necessary. Results are obtained more quickly if treatments are combined with good physical activity and a correct life style.

How many sessions can I perform weekly?

For physical training, consult the program of weekly training in the Globus Personal Trainer . For fitness and aesthetics programs, the number of sessions depends on the type of treatment: 3-4 sessions per week on alternate days are suggested for toning, whereas the treatments for Lipolysis and Drainage programs can be performed on a daily basis.

TABELLA 1
TABLE 1

GUIDA E DICHIARAZIONE DEL COSTRUTTORE – EMISSIONI ELETTROMAGNETICHE – PER TUTTI GLI APPARECCHI ED I SISTEMI

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC EMISSIONS – FOR ALL EQUIPMENT AND SYSTEMS

Il dispositivo GENESY 1500 è previsto per funzionare nell'ambiente elettromagnetico sotto specificato. Il cliente o l'utilizzatore del GENESY 1500 deve garantire che esso viene usato in tale ambiente.

The GENESY 1500 *is intended for use in the electromagnetic environment specified below. The customer or the user of the* GENESY 1500 *has to ensure that the device is used in an appropriate environment.*

Prova di emissione ***Emission Test***	**Conformità** ***Compliance***	**Ambiente elettromagnetico – Guida** ***Electromagnetic environment - Guidance***
Emissioni RF *RF emissions* CISPR 11	Gruppo 1 *Group 1*	Il GENESY 1500 utilizza energia RF solo per il suo funzionamento interno. Perciò le sue emissioni RF sono molto basse e verosimilmente non causano nessuna interferenza negli apparecchi elettronici vicini. *The* GENESY 1500 *uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment*
Emissioni RF *RF emissions* CISPR 11	Classe B *Class B*	Il GENESY 1500 è adatto per l'uso in tutti i locali compresi quelli domestici e quelli collegati direttamente ad un'alimentazione di rete pubblica a bassa tensione che alimenta edifici usati per scopi domestici. *GENESY 1500 can be used in all places, including domestic environments and those directly connected to the public low-voltage mains supplying domestic buildings.network that supplies buildings used for domestic purposes*
Emissioni armoniche *Harmonics emissions* IEC 61000-3-2	Classe A *Class A*	
Emissioni di fluttuazioni di tensione/flicker *Voltage fluctuation/flicker emissions* IEC 61000-3-3	Conforme *In compliance*	

TABELLA 2
TABLE 2

GUIDA E DICHIARAZIONE DEL COSTRUTTORE – IMMUNITÀ ELETTROMAGNETICA – PER TUTTI GLI APPARECCHI ED I SISTEMI

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY – FOR ALL EQUIPMENT AND SYSTEMS

Il GENESY 1500 è previsto per funzionare nell'ambiente elettromagnetico sotto specificato. Il cliente o l'utilizzatore del GENESY 1500 deve garantire che esso viene usato in tale ambiente.

The GENESY 1500 is intended for use in the electromagnetic environment specified below. The customer or the user of the GENESY 1500 *has to ensure that the device is used in an appropriateenvironment*.

Prova di immunità ***Immunity Test***	**Livello di prova IEC 60601** ***IEC 60601 test level***	**Livello di conformità** ***Compliance level***	**Ambiente elettromagnetico – Guida** ***Electromagnetic environment - Guidance***
Scarica elettrostatica (ESD) *Electrostatic discharge (ESD)* IEC 61000-4-2	±6 kV a contatto_*contact* ±8 kV in aria_*air*	±6 kV a contatto_*contact* ±8 kV in aria_*air*	I pavimenti devono essere in legno, calcestruzzo o in ceramica. Se i pavimenti sono ricoperti di materiale sintetico, l'umidità relativa dovrebbe essere almeno 30%. *Floors should be wooden or made of concrete or ceramic tiles. If floors are covered with synthetic material, relative humidity has to be at least 30%.*
Transitori/treni elettrici veloci *Electrical fast transient/burst* IEC 61000-4-4	±2 kV per le linee di alimentazione di potenza_*for power supply lines* ±1 kV per le linee di ingresso/uscita_*for input/output lines*	±2 kV per le linee di alimentazione di potenza_*for power supply lines* ±1 kV per le linee di ingresso/uscita_*for input/output lines*	La qualità della tensione di rete dovrebbe essere quella di un tipico ambiente commerciale o ospedaliero. *Mains power quality should be that of a typical commercial or hospital environment.*
Sovratensioni *Surge* IEC 61000-4-5	±1 kV linea – linea *line-line* ±2 kV linea - terra *line - earth*	±1 kV linea – linea *line-line* ±2 kV linea - terra *line - earth*	La qualità della tensione di rete dovrebbe essere quella di un tipico ambiente commerciale o ospedaliero. *Mains power quality should correspond to the quality of a typical*

			commercial or hospital environment.
Buchi di tensione, brevi interruzioni e variazioni di tensione sulle linee di ingresso dell'alimentazione *Voltage dips, short interruptions and voltage variations on power supply input lines* IEC 61000-4-11	<5% U_T (>95% buco in_*dip in* U_T) per_*for* 0,5 cicli_*cycle* 40% U_T (60% buco in_*dip in* U_V) per_*for* 5 cicli_*cycles* 70% U_T (30% buco in_*dip in* U_T) per_*for* 25 cicli_*cycles* <5% U_T (>95% buco in_*dip in* U_T) per_*for* 5 sec	<5% U_T (>95% buco in_*dip in* U_T) per_*for* 0,5 cicli_*cycle* 40% U_T (60% buco in_*dip in* U_V) per_*for* 5 cicli_*cycles* 70% U_T (30% buco in_*dip in* U_T) per_*for* 25 cicli_*cycles* <5% U_T (>95% buco in_*dip in* U_T) per_*for* 5 sec	La qualità della tensione di rete dovrebbe essere quella di un tipico ambiente commerciale o ospedaliero. Se l'utilizzatore del GENESY 1500 richiede un funzionamento continuato anche durante l'interruzione della tensione di rete, si raccomanda di alimentare il GENESY 1500 con un gruppo di continuità (UPS) o con batterie. *Mains power quality should correspond to the quality of a typical commercial or hospital environment.If the user of the* GENESY 1500 *requires continuous operation during the interruption of network voltage, it is recommended to supply the device through an uninterruptible power supply or a battery.*
Campo magnetico a frequenza di rete (50/60 Hz) *Power frequency (50/60 Hz) magnetic field* IEC 61000-4-8	3 A/m	3 A/m	I campi magnetici a frequenza di rete dovrebbero avere livelli caratteristici di una località tipica in ambiente commerciale o ospedaliero. *Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment*
Nota_e U_T è la tensione di rete in c.a. prima dell'applicazione del livello di prova *U_T is the a.c. mains voltage prior to application of the test level*			

TABELLA 4

TABLE 4

GUIDA E DICHIARAZIONE DEL COSTRUTTORE – IMMUNITÀ ELETTROMAGNETICA – PER GLI APPARECCHI ED I SISTEMI CHE NON SONO DI SOSTENTAMENTO DI FUNZIONI VITALI

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY – FOR EQUIPMENT AND SYSTEMS THAT DO NOT MAINTAIN VITAL FUNCTIONS

Il GENESY 1500 è previsto per funzionare nell'ambiente elettromagnetico sotto specificato. Il cliente o l'utilizzatore del GENESY 1500 deve garantire che esso venga usato in tale ambiente.

The GENESY 1500 is intended for use in the electromagnetic environment specified below. The customer or the user of the GENESY 1500 has to ensure that the device is used in an appropriate environment.

Prova di immunità ***Immunity Test***	**Livello di prova IEC 60601** ***IEC 60601 test level***	**Livello di conformità** ***Compliance level***	**Ambiente elettromagnetico – Guida** ***Electromagnetic environment - Guidance***
			Gli apparecchi di comunicazione a RF portatili e mobili non dovrebbero essere usati più vicino a nessuna parte del GENESY 1500 compresi i cavi, della distanza di separazione raccomandata calcolata con l'equazione applicabile alla frequenza del trasmettitore *Do not use portable and mobile RF communications equipment closely to any part of GENESY 1500, including cables. The recommended separation distance is calculated from the equation applicable to the transmitter frequency.* **Distanza di separazione raccomandata** ***Recommended separation distance*** $d = \left[\frac{3,5}{V_1}\right]\sqrt{P}$

RF condotta *Conducted RF* IEC 61000-4-6	3 Veff_Vrms da 150 kHz a 80 MHz *150 kHz to 80 MHz*	3 V	$d = \left[\frac{12}{E_1}\right]\sqrt{P}$ da 80 MHz a 800 MHz *80 MHz to 800 MHz* $d = \left[\frac{7}{E_1}\right]\sqrt{P}$ da 800 MHz a 2,5 GHz *800 MHz to 2,5 GHz*
RF irradiata *Radiated RF* IEC 61000-4-3	3 V/m da 80 MHz a 2,5 GHz *80MHz to 2,5 GHz*	3 V/m	
			ove P è la potenza massima nominale d'uscita del trasmettitore in Watt (W) secondo il costruttore del trasmettitore e *d* è la distanza di separazione raccomandata in metri (m). *P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).* Le intensità di campo dei trasmettitori a RF fissi, come determinato da un'indagine elettromagnetica[a] del sito potrebbe essere minore del livello di conformità in ciascun intervallo di frequenza[b] *Field strengths of fixed RF transmitters, as determined by an electromagnetic site survey[a], should be lower than the compliance level in each frequency range[b].*

			Si può verificare interferenza in prossimità di apparecchi contrassegnati dal seguente simbolo: *Interference may occur if any equipment marked with the following symbol is close:* 

Note_s:

(1) A 80 MHz e 800 MHz; si applica l'intervallo di frequenza più alto.

At 80 MHz and 800 MHz, the higher frequency range applies.

(2) Queste linee guida potrebbero non applicarsi in tutte le situazioni. La propagazione elettromagnetica è influenzata dall'assorbimento e dalla riflessione di strutture, oggetti e persone.
These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a Le intensità di campo per trasmettitori fissi come le stazioni base per radiotelefoni (cellulari e cordless) e radiomobili terrestri, apparecchi di radioamatori, trasmettitori radio in AM e FM e trasmettitori TV non possono essere previste teoricamente e con precisione. Per valutare un ambiente elettromagnetico causato da trasmettitori RF fissi, si dovrebbe considerare un'indagine elettromagnetica del sito. Se l'intensità di campo misurata nel luogo in cui si usa un GENESY 1500, supera il livello di conformità applicabile di cui sopra, si dovrebbe porre sotto osservazione il funzionamento normale del GENESY 1500. Se si notano prestazioni anormali, possono essere necessarie misure aggiuntive come un diverso orientamento o posizione del GENESY 1500.

Field strengths from fixed transmitters, such as radiotelephone base stations (mobile/cordless phone) and land mobile, amateur, AM and FM radios, and TV transmitters cannot be predicted theoretically with accuracy. An electromagnetic site survey is necessary to assess the electromagnetic environment affected by fixed RF transmitters. If the field strength in the location where GENESY 1500 is used exceeds the above-mentioned applicable RF compliance level, GENESY 1500 should be monitored when running. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating GENESY 1500.

b L'intensità di campo nell'intervallo di frequenza da 150 kHz a 80 MHz dovrebbe essere minore di [V_1] V/m

If the frequency range is between 150 kHz and 80 MHz, field strengths have to be lower than [V_1] V/m.b

TABELLA 6
TABLE 6

DISTANZE DI SEPARAZIONE RACCOMANDATE TRA APPARECCHI DI RADIOCOMUNICAZIONE PORTATILI E MOBILI E GENESY 1500 PER APPARECCHI O SISTEMI CHE NON SONO DI SOSTENTAMENTO DELLE FUNZIONI VITALI

RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE GENESY 1500 FOR EQUIPMENT AND SYSTEM THAT DO NOT MAINTAIN VITAL FUNCTIONS

Il GENESY 1500 è previsto per funzionare in un ambiente elettromagnetico in cui sono sotto controllo i disturbi irradiati RF. Il cliente o l'operatore del GENESY 1500 possono contribuire a prevenire interferenze elettromagnetiche assicurando una distanza minima fra gli apparecchi di comunicazione mobili e portatili a RF (trasmettitori) e il GENESY 1500 come sotto raccomandato, in relazione alla potenza di uscita massima degli apparecchi di radiocomunicazione.

GENESY 1500 is intended for use in an electromagnetic environment where radiated RF disturbances are controlled. The customer or the user of GENESY 1500 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and GENESY 1500 as recommended below, according to the maximum output power of the communication equipment.

Potenza di uscita massima del trasmettitore specificata ***Rated maximum output power of transmitter*** ***W***	**Distanza di separazione alla frequenza del trasmettitore (m)** ***Separation distance according to frequency of transmitter (m)***		
	Da 150 kHz a_*to* 80 MHz	**Da 80 MHz a_*to* 800 MHz**	**Da 800 MHz a_*to* 2,5 GHz**
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,20	1,20	2,30
10	3,80	3,80	7,30
100	12,00	12,00	23,00

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