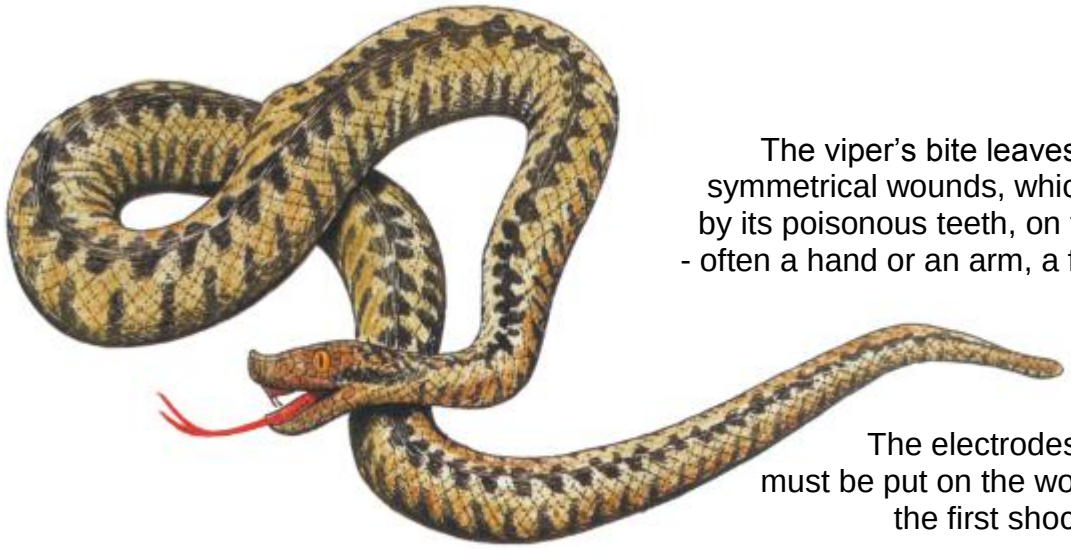
ECOSAVE®

ECOSAVE® is a patented electronic stimulator able to send shocks of a certain voltage and amperage lasting a second with regular breaks of a second.
This device is an innovating and modern means of first aid in case of snake bites or poisonous stings of insects and fish.

The idea of operating against snake bites with the use of electricity is not new.
The abbot Felice Fontana was the first to suggest it in his "Treatise on vipers' venom" (1787), one of the first texts of modern experimental pharmacology. It was still a completely theoretical proposal, since there was not a suitable equipment, but it was based on the fact that the electricity was among the means of treatment used for many diseases already at that time.

Few electric shocks given to the affected area are enough for an immediate relief from pain and to reduce the toxic reactions produced by the poisonous snake bite. Some time ago Ronald H. Guderian of the Vozandes Hospital in Quito, Ecuador, Charles D. Mackenzie of the Tropical Medicine School in London and Jeffrey F.William of the Microbiology Departmentof Michigan University in the United States said that to "The Lancet", the great English medical review.

During their stay in Ecuador the three experimenters write "We have records on 43 cases of bites on limbs where there was evidence of penetration of the skin. The current was applied within 30 min, and 10-15 min later all pain had gone and the usual sequelae of an untreated bite (swelling, serosanguinous bullae, bleeding, shock, and renal failure) did not develop. No patient died. After an hour the patient was usually able to go home. ... 7 people who refused the shock treatment experienced the classic complications and 2 needed life-saving amputations. ... This technique has been used equally successfully by other investigators in the jungles of Ecuador for other types of bite, such as those of the ant (Paraponera sp) and the black scorpion (Tytus sp). Colleagues in Irian Jaya, Indonesia, and Peru have also used this technique with similar results".



The viper's bite leaves two little hole symmetrical wounds, which are produced by its poisonous teeth, on the affected area - often a hand or an arm, a foot or a leg.

The electrodes of the device must be put on the wounds and then the first shock has to be sent.

Afterwards, pivoting on an electrode situated on one of the two wounds, one has to give from three to seven shocks in a circular way.
The same must be done on the other wound, so that the whole affected area is treated.

If it is done at the right moment, this operation is able to reduce the local symptoms, i. e. pain, burning sensation, reddening, swelling, and also the after-effects of the venom which is under the skin. "I agree with most of my colleagues - says Dr. Maria Luisa Ruggeroni, chief of the Antivenom Centre of the Niguarda Ca' Granda Hospital in Milan - on the fact that after the bite of an Italian viper, the traditional instructions, i.e. use of tourniquet, practice of an incision and of the suction from the wound, are by no means necessary, on the contrary they can result dangerous. It is only necessary an immobilization of the affected limb, even if it has been done in some way, and then it is important to reach a First Aid Center, no matter if one arrives there one or two hours after the event". The new innovating system of giving immediately low electric shocks on the bite area allows to make a better situation.

Only in a hospital - Prof. Ruggeroni continues - it is necessary to use the anti-viper serum, besides in very selected and controlled cases. From 1987 to 1992 we had to use the serum only for a couple of cases on 140 people registered in our Center and helped for viper's bite. This severe restriction is explained with the fact that the serum becomes really necessary in very few cases and it is potentially more lethal of the viper's venom, because when it has been injected without taking the necessary precautions it can cause an allergic reaction till an anaphylactic mortal shock".
Contrary to the common belief that the viper's bite involves a high risk of death, a research, promoted by the Ministry of Health and done on 286 people, established that the seriousness of the envenomatiom was low for the 45%, weak for the 30%, moderate for the 14%, serious for 8% and mortal only for the one per cent of cases. The people, who risk more, are children, old people and those with poor health.

People do not know that in Italy the most dangerous animals are not vipers, as it is still believed, but bees, wasps and hornets, which it is much more easier and frequent to be stung by, because almost one people on 200 is allergic to their venom and so can run the risks of an anaphylactic mortal shock. It is curious to see that the recent idea to use electric power against poisonous snake bites has borne also from the news, published on a local paper of Illinois in the United States, about a farmer allergic to bees' stings who empirically treated himself with electric shocks on the affected areas.
Besides, the use of Ecosave (the new name of Ecobite System) also extends to the treatment of the common stings of bees, wasps and hornets subject to the removal of the sting stuck inside, if necessary, till to the simple mosquito-bites. Pain, swelling and itching mitigate and then disappear. It is necessary to turn to a specialized department of the Hospital in case of allergic sensitization to the venom - abnormal symptoms are felt such as widespread reddening and severe swelling on the affected area and also labored breath, general discomfort.
Also spider bite, poisonous fish stings (in this case it is necessary first to extract the possible sting) and jelly-fish urticaria can be equally treated with little electric shocks.

The validity of the technique based on electric stimulation against poisonous bites and stings was and is still an object of studies an experiments by american and european researchers. Its way of action has been not cleared still. Theoretically it is explained with a local effect on the affected tissues or with a direct or indirect inactivation of one or more elements of the venom itself. The electric stimulation by Ecosave can be used on every part of the body of an adult and of children (minimum six years old). It must not be used on people with cardiac pace-maker.

SPECIFICATIONS
Voltage: 20 KV;
amperage: 0,5 mA;
repeating shocks of 1 sec. with breaks of a sec.;
operating temperature: from 5 to 80∞C;
mains supply: 1 AAA battery
ABS shock-proof
container; measures mm. 141 x 35 x 70;
weight including the battery: almost 180 gr.
Duration of battery: almost 1200 shocks.

BIBLIOGRAPHY
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It is a class IIa medical device CE 0051
Read carefully cautions and instructions for use.

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