

We Claim:

1. A medical electrode comprising:
 - an electrolyte;
 - an absorbent material being in contact with the electrolyte, said absorbent material comprising a plurality of strands such that each strand is infused with the electrolyte;
 - a pressing means being in contact with the absorbent material, said pressing means comprising a plurality of protrusions to push the strands of the absorbent material through the stratum corneum of a target skin area on a patient;
 - an electrically conductive means located adjacent to the pressing means, said electrically conductive means being in contact with the absorbent material, wherein each electrolyte infused strand of the absorbent material functions as a conductive channel from the site of ingress in the stratum corneum to the electrically conductive means; and
 - a support means for supporting the electrode and to hold the electrode in contact with a target skin area of a patient.
2. The medical electrode as claimed in claim 1, wherein the absorbent material comprises the plurality of strands in gauze structure.
3. The medical electrode as claimed in claim 1, wherein the absorbent material is of cotton fibers.
4. The medical electrode as claimed in claim 1, wherein the electrically conductive means is a plastic substrate coated with a conductive metallic layer

- on the surface in contact with the absorbent material, facing the target skin area.
5. The medical electrode as claimed in claim 4, wherein the conductive metallic layer is silver/silver chloride.
 6. The medical electrode as claimed in claim 4, wherein the plastic substrate is connected to a flexible printed circuit board.
 7. The medical electrode as claimed in claim 1, wherein the pressing means has a further means on a top surface of the electrode to aid application of pressure on the electrode, said top surface being the surface facing away from the target skin area.
 8. The medical electrode as claimed in claim 1 being connected to a measuring device for measuring and recording biopotential signals detected by the electrode.
 9. A medical electrode system comprising the at least one electrode as claimed in claim 1, said at least one electrode being connected to a flexible base that removably engages with a measuring device.
 10. A method of using the medical electrode as claimed in claims 1 or 9 comprising:
 - placing the electrode directly on the target skin area of a patient;
 - pressing the electrode into the skin to push the electrolyte infused strands of the absorbent material through the stratum corneum; and
 - displaying biopotential signal values detected by the electrode on a measuring device.

Dated this 24th day of March 2021.