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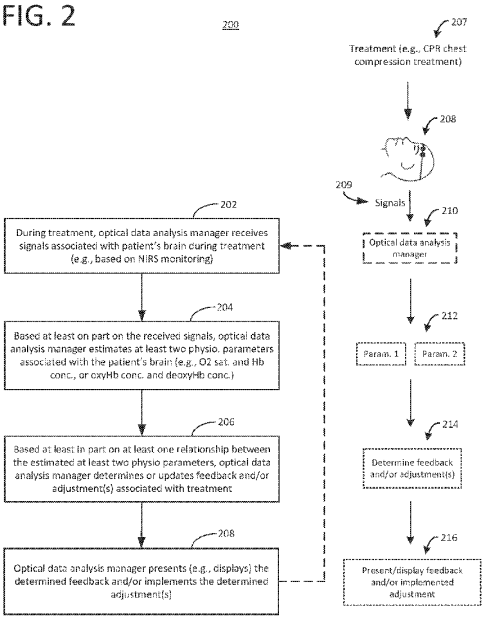
(54) Title: OPTICAL BRAIN MONITORING IN RESUSCITATION AND EMERGENCY CARE

FIG. 2



(57) Abstract: Systems and methods are provided that include use of near infrared spectroscopy (NIRS) brain monitoring in providing feedback and adjustments relating to treatment being provided to a patient. In some examples, at least one controller receives, from a NIRS system, signals associated with the brain of the patient receiving CPR chest compression treatment. The at least one controller, based on the signals, estimates at least two physiological parameters associated with the brain of the patient, such as hemoglobin concentration and oxygen saturation, or oxyhemoglobin concentration and deoxyhemoglobin concentration. The at least one controller, based at least in part on at least one relationship between the at least two physiological parameters, provides feedback or adjustments relating to the CPR chest compressions being provided to the patient. The at least one relationship may be associated with a multidimensional space including at least two axes associated with the at least two physiological parameters.

WO 2025/207248 A1

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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
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