



(54) **METHOD AND APPARATUS FOR
AUTOMATED ACQUISITION OF THE
GLASGOW COMA SCORE (AGCS)**

FOREIGN PATENT DOCUMENTS

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* cited by examiner

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(57) **ABSTRACT**

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A system and a method for computerized automated acquisition of the Glasgow Coma Score (GCS) for quantifying level of consciousness following traumatic brain injury performs the assessment of the GCS of critically ill patients on a periodic basis. Based on measurement of stimulus-induced standard physiological and verbal responses of the patient such as EMG, EOG and simple utterances, the system produces a coma score, which corresponds one-to-one with the score obtained by human assessors. The apparatus used for automated assessment of a degree of consciousness in a patient comprises a computer having a program stored therein to assess consciousness of the patient, at least one electrode coupled to the computer for sensing a physical response, a speaker coupled to the computer for producing an audio signal, a microphone coupled to the computer configured to sense an audio response from the patient, and a pain stimulator coupled to the computer to generate a pain stimulus in the patient. The method used for automated assessment of a degree of consciousness in a patient using a computer comprises the steps of sensing a response from the patient, recording the response in the computer, the response being characterizable in nature, analyzing the characterizable nature of the response to determine the nature in the computer, categorizing the nature of the response in the computer, and producing by the computer a stimulus dependent on the categorization of the response.

Related U.S. Application Data

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(51) **Int. Cl.⁷ A61B 5/00**

(52) **U.S. Cl. 600/557; 600/300**

(58) **Field of Search 600/300, 557,**
600/483, 376, 544, 383, 546; 607/5, 72;
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32 Claims, 6 Drawing Sheets

