Any information on issues which can affect the blood glucose level of a person can be relevant for the algorithm in an EEG monitor deciding to provide an alarm about a possible upcoming event of hypoglycaemia. Any such information will also be relevant for a system comprising an insulin pump and maybe a continuous glucose monitor (CGM).

One problem is that any such further input will either be dependent on input from an external source or from the person wearing the EEG monitor, both introducing a degree of uncertainty, or the input will depend on the presence of some sensor.

One solution of such a problem is an EEG monitor where the signal processing part is adapted for identifying electrical signals captured by the EEG electrodes that are derived from muscular activity related to the process of chewing.

One advantage of the solution is that chewing, and thereby possibly eating, is relevant information in relation to different relevant applications of continuous EEG monitoring, such as detecting an upcoming event of hypoglycaemia. Also in general EEG monitoring for research purposes, automatic registration of the time when a person is eating may be relevant.

In a first aspect, there is provided an EEG monitor comprising electrodes adapted for capturing EEG signals and a signal processing part adapted for analyzing and classifying the EEG signals captured, wherein said signal processing part is adapted for identifying electrical signals captured by said electrodes that are derived from muscular activity related to the process of chewing, wherein the signal processing part is adapted for identifying an upcoming onset of hypoglycemia and for providing an alarm when such an upcoming onset of hypoglycemia is identified, and wherein the type of said alarm is dependent on whether chewing has been identified or not. A monitor which can detect chewing as well as an upcoming onset of hypoglycemia will be very relevant to use for people with diabetes. The alarm or notification of the EEG monitor may also depend on whether chewing is identified or not, i.e. the alarm or notification could be different when chewing is

detected, since the person wearing the alarm may already be in the process of reducing the risk of hypoglycemia.

In a further embodiment the EEG monitor is adapted for arrangement in the ear region of a person to be monitored. The EEG monitor comprises an EEG sensing part having EEG electrodes. The EEG sensing part can be arranged subcutaneously at the scalp or

Claims

1. An EEG monitor comprising electrodes adapted for capturing EEG signals and a signal processing part adapted for analyzing and classifying the EEG signals captured, wherein said signal processing part is adapted for identifying electrical signals captured by said electrodes that are derived from muscular activity related to the process of chewing, wherein said signal processing part is adapted for identifying an upcoming onset of hypoglycemia and for providing an alarm when such an upcoming onset of hypoglycemia has been identified, and wherein the type of said alarm is dependent on whether chewing has been identified or not.

2. The EEG monitor according to claim 1, adapted for being arranged in the ear region of a person to be monitored and comprising an EEG sensing part having EEG electrodes, said EEG sensing part being arranged subcutaneously at the scalp or in the ear canal.

3. The EEG monitor according to any one of the preceding claims, wherein said signal processing part comprises feature extraction and classifying parts both adapted for the detection of an electrical signal related to a process of chewing.

4. The EEG monitor according to claim 3, wherein at least one of said feature extraction and classifying parts are adapted to be calibrated to detect a chewing signal for a specific person who are supposed to use said EEG monitor.

5. The EEG monitor according to claim 1, further adapted for recording acoustic sound and for applying such recording as a further parameter in classification of a signal as derived from chewing.

6. A system for adjusting the blood glucose level of a person, comprising an EEG monitor according to claim 1, and further comprising an insulin delivery device configured to release insulin into the body of said person.

7. The system according to claim 6, wherein said EEG monitor is adapted for submitting a message to said insulin delivery device when chewing has been identified.

8. The system according to claim 7, wherein said EEG monitor is adapted for identifying an upcoming onset of hypoglycemia and is configured to submit a warning signal to said insulin delivery device if an upcoming onset of hypoglycemia has been identified, said warning signal causing said insulin delivery device to restrict the insulin delivery for a predetermined time period.

9. The system according to claim 8, wherein said restriction is made dependent on whether chewing has been identified or not, such that the step of the reduction in insulin administration is relatively smaller when chewing is identified compared to when chewing is not identified.