Claims

1. A computer-implemented method for controlling dispensing of at least one biologically active agent in intermittent doses over discrete predefined time periods, comprising the steps of:

    (i) initiating the dispensing of the biologically active agent in the intermittent doses at a first background dosage rate, and

    setting a first predefined time period;

additionally dispensing a first stage signal-induced dose of the biologically active agent, in response to an input signal from a signalling device within the first predefined time period, and setting a second predefined time period; dispensing a second stage signal-induced doses of the biologically active agent, in response to a second input signals from the signalling device within the second predefined time period, and re-setting the second predefined time period; dispensing a third stage signal-induced dose of the biologically active agent, in response to a third input signal from the signalling device within the second predefined time period, and re-setting the second predefined time period; dispensing a fourth stage signal-induced dose of the biologically active agent, in response to a fourth input signal from the signalling device within the second predefined time period, and re-setting the second predefined time period; preventing further dispensing stages within the second predefined time period, and then; re-setting the second predefined time period.

2. The method according to claim 1, further comprising applying a lockout time period after dispensing each intermittent dose or each signal-induced dose wherein no further of the signal-induced or the intermittent doses of the biologically active agent are dispensed.

3. The method according to claim 1, wherein if the fourth stage input signal is received from the signalling device, an alert signal is generated.

4. The method according to claim 1, further comprising capping the background dosage rate at a predefined maximum rate.

5. The method according to claim 1, wherein the biologically active agent is for use in administering to a subject.

6. The method according to claim 1, wherein the biologically active agent is for use in epidural administration to a subject.

7. The method according to claim 1, further including the step of(ii) adjusting to a background dosage rate according to the number of the input signals received over each predefined time period from the signalling device, wherein step (ii) comprises at least one of:

(a) increasing the background dosage rate if a frequency of the input signals increases; or

(b) decreasing the background dosage rate if a frequency of the input signals decreases.

8. A dispensing system comprising a computer system operatively connected to at least one dispensing device, wherein the dispensing system is configured to perform a method for controlling dispensing of at least one biologically active agent in intermittent doses over discrete predefined time periods, comprising the steps of: initiating the dispensing of the biologically active agent in intermittent doses at a first background dosage rate, and setting a first predefined time period; additionally dispensing a first stage signal-induced dose of the biologically active agent, in response to an input signal from a signalling device within the first predefined time period, and setting a second predefined time period; dispensing a second stage signal-induced doses of the biologically active agent, in response to subsequent input signals from the signalling device within the second predefined time period, and re-setting the second predefined time period; dispensing a third stage signal-induced dose of the biologically active agent, in response to a

third input signal from the signalling device within the second predefined time period, and re-setting the second predefined time period; dispensing a fourth stage signal-induced dose of the biologically active agent, in response to a fourth input signal from the signalling device within the second predefined time period, and re-setting the second predefined time period; preventing further dispensing stages within the second predefined time period, and then; re-setting the second predefined time period.

9. The dispensing system according to claim 8, wherein the dispensing device comprises either one or both of a pump and a syringe.

10. The dispensing system according to claim 8, wherein the method for controlling dispensing of at least one biologically active agent in intermittent doses over discrete predefined time periods further comprises the step of (ii) adjusting to a background dosage rate according to the number of the input signals received over each predefined time period from the signalling device, wherein step (ii) comprises at least one of: (a) increasing the background dosage rate if a frequency of the input signals increases; or (b) decreasing the background dosage rate if a frequency of the input signals decreases.