

Claims

1. An implantable medical device comprising a processor (170) and a memory unit (160)
- 5 wherein the memory unit (160) comprises a computer-readable program that causes the processor (170) to perform the following steps when run on the processor:
- a) performing a detection (210) to determine whether the implantable medical device (100) is in an implanted state
 - b) if it is detected that the implantable medical device (100) is in an implanted state
- 10 (220), activating a first diagnostic or therapeutic function (230) of the implantable medical device (100), and subsequently activating a second diagnostic or therapeutic function (260) of the implantable medical device (100), wherein the second diagnostic or therapeutic function (260) is activated only after the fulfilment (250) of at least one activation criterion selected from the
- 15 group consisting of an elapse of a first time period from the activation of the first diagnostic or therapeutic function (230), an elapse of a second time period from the detection (210) that the implantable medical device (100) is in an implanted state, and a passing of a function test,
- characterised in that**
- 20 the first diagnostic or therapeutic function (230) and/or the second diagnostic or therapeutic function (260) comprises a function for cardiac defibrillation, a function for antitachycardia stimulation of a cardiac region of a patient and/or a function for the automatic adaptation of algorithms used for antitachycardia stimulation.
- 25
2. The implantable medical device according to claim 1, **characterised in that** the implantable medical device (100) is a device selected from the group consisting of pacemaker implants, cardioverter-defibrillators, cardiac resynchronisation therapy devices, spinal cord stimulators, deep brain stimulation devices and implantable drug
- 30 pumps.

3. The implantable medical device according to claim 1 or 2, **characterised in that** the program causes the processor (170) to activate the first diagnostic or therapeutic function (230) only after a third time period has elapsed from the detection (210) that the implantable medical device (100) is in an implanted state.
- 5 4. The implantable medical device according to any one of the preceding claims, **characterised in that** the first time period and/or the second time period each have a length which is between 5 minutes and 48 hours.
- 10 5. The implantable medical device according to any one of the preceding claims, **characterised in that** the implantable medical device (100) comprises a time-measuring device for measuring the first time period and/or the second time period.
- 15 6. An implantable medical device according to claim 5, **characterised in that** the program causes the processor (170) to stop, change or reset the time-measuring device depending on a start event in order to start measuring the first time period and/or the second time period.
- 20 7. The implantable medical device according to any one of the preceding claims, **characterised in that** the first diagnostic or therapeutic function (230) and/or the second diagnostic or therapeutic function (260) comprises a detection of a cardiac signal of a patient, a stimulation of a cardiac region of a patient within the scope of a pacemaker stimulation, a stimulation of a cardiac region of a patient within the scope of a cardiac resynchronisation therapy, a function for detecting an electrode error and/or an electrode dislocation and/or a function for remote implant monitoring.
- 25 8. The implantable medical device according to any one of the preceding claims, **characterised in that** the implantable medical device (100) is a cardiac resynchronisation therapy device or a cardioverter/defibrillator, and the second diagnostic or therapeutic function (260) comprises a cardiac defibrillation function.
- 30

9. The implantable medical device according to any one of the preceding claims, **characterised in that** the function test is selected from the group consisting of a test in order to determine whether electrodes of the implantable medical device (100) provided for detecting electrical signals and/or emitting electrical pulses are correctly positioned, a test in order to determine whether electrodes provided for detecting electrical signals and/or emitting electrical pulses have an electrode breakage, a test in order to determine compliance with a signal quality criterion, and a test in order to determine the type of detected physiological electrical signals.
10. The implantable medical device according to any one of the preceding claims, **characterised in that** the program causes the processor (170) to determine available shock vectors following fulfilment (250) of the activation criterion for a defibrillation function.
11. The implantable medical device according to any one of the preceding claims, **characterised in that** the program causes the processor to activate all implanted defibrillation electrodes of the implantable medical device (100) for defibrillation and for electrode diagnostics upon detection (210) that the implantable medical device is in its implanted state.
12. A method for controlling the operation of an implantable medical device, in particular an implantable medical device according to any one of the preceding claims, comprising the following steps:
- a) performing a detection (210) to determine whether the implantable medical device (100) is in an implanted state;
 - b) if it is detected that the implantable medical device (100) is in an implanted state (220), activating a first diagnostic or therapeutic function (230) of the implantable medical device (100), and subsequently activating a second diagnostic or therapeutic function (260) of the implantable medical device (100), wherein the second diagnostic or therapeutic function (260) is activated only after the fulfilment of at least one activation criterion selected from the group consisting of an elapse of a first time period from the activation of the first

diagnostic or therapeutic function (230), an elapse of a second time period from the detection (210) that the implantable medical device (100) is in an implanted state, and a passing of a function test,

characterised in that

5 the first diagnostic or therapeutic function (230) and/or the second diagnostic or therapeutic function (260) comprises a function for cardiac defibrillation, a function for antitachycardia stimulation of a cardiac region of a patient and/or a function for automatic adaptation of algorithms used for antitachycardia stimulation.

10

13. A computer program product comprising a computer-readable code that causes a processor to perform the following steps when run on the processor:

- a) performing a detection to determine whether an implantable medical device (100) is in an implanted state;
- 15 b) if it is detected that the implantable medical device (100) is in an implanted state (220), activating a first diagnostic or therapeutic function (230) of the implantable medical device (100), and subsequently activating a second diagnostic or therapeutic function (260) of the implantable medical device, wherein the second diagnostic or therapeutic function (260) is activated only
- 20 after the fulfilment (250) of at least one activation criterion selected from the group consisting of an elapse of a first time period from the activation of the first diagnostic or therapeutic function (230), an elapse of a second time period from the detection (210) that the implantable medical device (100) is in an implanted state, and a passing of a function test,

25 characterised in that

 the first diagnostic or therapeutic function (230) and/or the second diagnostic or therapeutic function (260) comprises a function for cardiac defibrillation, a function for antitachycardia stimulation of a cardiac region of a patient and/or a function for automatic adaptation of algorithms used for antitachycardia stimulation.

30

14. A method for implanting an implantable medical device into a human or animal patient in need of such implantation, the implantable medical device (100) comprising a processor (170) and a memory unit (160), wherein the method comprises the steps of:

- 5 a) implanting the implantable medical device (100) into the patient;
- b) performing a detection (210) to determine whether the implantable medical device (100) is in an implanted state by means of a program run on the processor (170);
- 10 c) if it is detected that the implantable medical device (100) is in an implanted state (220), activating a first diagnostic or therapeutic function (230) of the implantable medical device (100), and subsequently activating a second diagnostic or therapeutic function (260) of the implantable medical device (100), in each case by means of a program run on the processor (170), wherein the second diagnostic or therapeutic function (260) is activated only after the
15 fulfilment of at least one activation criterion selected from the group consisting of an elapse of a first time period from the activation of the first diagnostic or therapeutic function (230), an elapse of a second time period from the detection (210) that the implantable medical device (100) is in an implanted state, and a passing of a function test,

20 **characterised in that**

the first diagnostic or therapeutic function (230) and/or the second diagnostic or therapeutic function (260) comprises a function for cardiac defibrillation, a function for antitachycardia stimulation of a cardiac region of a patient and/or a function for automatic adaptation of algorithms used for antitachycardia
25 stimulation.