Claims

1. An insertion device ~~(110)~~ for inserting a medical device ~~(112)~~ into a body tissue of a user, the insertion device ~~(110)~~ comprising:
   i) the medical device ~~(112)~~;
   ii) an insertion component ~~(118)~~ configured for inserting the medical device ~~(112)~~ into the body tissue;
   iii) an insertion component retractor ~~(120)~~;
   iv) a cap ~~(122)~~;
   v) a guide sleeve ~~(124)~~ comprising at least one ramp ~~(126)~~;
   vi) an insertion sleeve ~~(128)~~; and
   vii) an elastic member ~~(130)~~;
   wherein, for inserting the medical device ~~(112)~~, the cap ~~(122)~~, the insertion component retractor ~~(120)~~ and the insertion sleeve ~~(128)~~ are movable relative to the guide sleeve ~~(124)~~ from a distal position ~~(164)~~ to a proximal position ~~(166)~~, wherein the ramp ~~(126)~~ of the guide sleeve ~~(124)~~ is configured to twist the insertion component retractor ~~(120)~~ relative to the guide sleeve ~~(124)~~ and the insertion sleeve ~~(128)~~ when the cap ~~(122)~~ is moved from its distal position ~~(164)~~ to its proximal position ~~(166)~~, wherein the cap ~~(122)~~ is movable from its proximal position ~~(166)~~ to its distal position ~~(164)~~, thereby the insertion component retractor ~~(120)~~ is moved from its proximal position ~~(166)~~ to its distal position ~~(164)~~.

2. The insertion device ~~(110)~~ according to claim 1, wherein the movement of the cap ~~(122)~~ together with the insertion component retractor ~~(120)~~ and the insertion sleeve ~~(128)~~ from its distal position ~~(164)~~ to its proximal position ~~(166)~~ is initiable by an action of the user.

3. The insertion device ~~(110)~~ according to any one of claims 1 or 2, wherein the movement of the cap ~~(122)~~ together with the insertion component retractor ~~(120)~~ from its proximal position ~~(166)~~ to its distal position ~~(164)~~ is initiable by relieving the action of the user.

4. The insertion device ~~(110)~~ according to any one of claims 1 to 3, wherein before reaching the proximal position ~~(166)~~ of the insertion component retractor ~~(120)~~, the ramp

(126) of the guide sleeve (124) is in contact with a latch (136) of the insertion component retractor (120) and the ramp (126) is configured for twisting the latch (136) thereby twisting the insertion component retractor (120).

5. The insertion device (110) according to claim 4, wherein the insertion sleeve (128) comprises at least one groove (140), wherein the groove (140) is configured for guiding the latch (136) of the insertion component retractor (120), wherein the groove (140) comprises at least one edge (162).

6. The insertion device (110) according to claim 5, wherein the ramp (126) of the guide sleeve (124) is configured for forcing the insertion component retractor (120) to twist by guiding the at least one latch (136) to move within the groove (140) of the insertion sleeve (128).

7. The insertion device (110) according to any one of claims 1 to 6, wherein the elastic member (130) is configured for driving the insertion component retractor (120) to move from its proximal position (166) to its distal position (164), wherein the elastic member (130) comprises at least one spring (171), wherein the spring (171) is connected to the insertion component retractor (120), wherein the spring (171) is pre-tensioned and is actuatable by releasing a force applied to the cap (122).

8. The insertion device (110) according to claim 7, wherein the at least one spring (171) is configured to drive the movement of the insertion component retractor (120) from its proximal position (166) to its distal position (164) and thereby drive the movement of the cap (122) from its proximal position (166) to its distal position (164).

9. The insertion device (110) according to any one of claims 1 to 8, wherein the cap (122) when being in the proximal position (166) aligns with a proximal end (142) of the guide sleeve (124).

10. The insertion device (110) according to any one of claims 1 to 9, wherein the insertion device (110) further comprises at least one safety lock (172), wherein the safety lock (172) is configured for preventing re-movement of the insertion component retractor (120) after being moved to its distal position (164).

11. The insertion device ~~(110)~~ according to any one of claims 1 to 10, wherein the medical device ~~(112)~~ comprises at least one analyte sensor ~~(114)~~ for detecting at least one analyte in a bodily fluid of a user.

12. The insertion device ~~(110)~~ according to claim 11, wherein the at least one analyte sensor ~~(114)~~ comprises at least one two-electrode sensor.

13. A method for inserting a medical device ~~(112)~~ into a body tissue of a user by using at least one insertion device ~~(110)~~ according to any one of claims 1 to 12, wherein the method comprises:

a) inserting the medical device ~~(112)~~ into the body tissue of the user by applying a force on the cap ~~(122)~~ of the insertion device ~~(110)~~ thereby moving the insertion component ~~(118)~~, the cap ~~(122)~~, the insertion component retractor ~~(120)~~ and the insertion sleeve ~~(128)~~ relative to the guide sleeve ~~(124)~~ from a distal position ~~(164)~~ to a proximal position ~~(166)~~, and twisting the insertion component retractor ~~(120)~~ relative to the guide sleeve ~~(124)~~ and the insertion sleeve ~~(128)~~; and

b) retracting the insertion component ~~(118)~~ by relieving the force applied to the cap ~~(122)~~ thereby moving the cap ~~(122)~~ from its proximal position ~~(166)~~ to its distal position ~~(164)~~, thereby moving the insertion component retractor ~~(120)~~ from its proximal position ~~(166)~~ to its distal position ~~(164)~~.

14. The method according to claim 13, wherein the method comprises the following further steps:

a1) bringing the insertion device ~~(110)~~, in particular the proximal end of the guide sleeve in contact with a skin site of a user,

b1) applying pressure to the skin site of the user with the sensor patch.

15. The method according to claim 13 or 14, wherein the movement of the cap ~~(122)~~ together with the insertion component retractor ~~(120)~~ and the insertion sleeve ~~(128)~~ from its distal position ~~(164)~~ to its proximal position ~~(166)~~ is initiated by action of the user.

16. The method according to any one of claims 13 to 15, wherein the movement of the cap ~~(122)~~ together with the insertion component retractor ~~(120)~~ from its proximal position ~~(166)~~ to its distal position ~~(164)~~ is initiated by relieving action of the user.