

Claims

1. A needle (10) comprising:
a needle tip (14) formed from a first rigid material, the needle tip (14) comprising a bevel (30) for puncturing a subject; and
a needle shaft (12) comprising a second material,
wherein the needle tip (14) is separately formed and subsequently attached to the needle shaft (12) to form the needle (10).
2. The needle (10) of claim 1, wherein the first material has higher rigidity than the second material.
3. The needle (10) of claim 1 or 2, wherein the first material is a metal.
4. The needle (10) of any one of the preceding claims, wherein the second material is a plastic.
5. The needle (10) of any one of the preceding claims, wherein the second material is a light permeable material to enable visible detection of primary flashback in the needle shaft (12).
6. The needle (10) of any one of the preceding claims, wherein the second material is transparent or translucent.
7. The needle (10) of any one of the preceding claims, wherein the needle tip (14) is attached to the needle shaft (12) through a coupling (85).
8. The needle (10) of claim 7, wherein the coupling (85) comprises:
one or more indentations on one of the needle shaft (12) and the needle tip (14); and,
for each indentation,
a protrusion on the other one of the needle shaft (12) and the needle tip (14), and
arranged to be received in the indentation, thereby to couple the needle tip (14) to the needle shaft (12).
9. The needle (10) of any one of claims 7 or 8, wherein the coupling (85) comprises:

one or more apertures (702) on one of the needle shaft (12) and the needle tip (14); and
for each aperture (702), a protrusion (704) on the other one of the needle shaft (12) and
the needle tip (14), and arranged to be received in the aperture (702), thereby to couple the
needle tip (14) to the needle shaft (12).

10. The needle (10) of any one of the preceding claims, wherein the needle tip (14)
comprises:

the first material having the bevel (30); and

either:

- (i) the second material is formed onto the first material, thereby to form the
needle shaft (12); or
- (ii) the needle shaft (12) is formed from the second material and thereafter
connected to the first material.

11. The needle (10) of any one of the preceding claims, wherein the needle shaft (12)
comprises an integral needle tip (14) at a distal end of the needle shaft (12), and the needle tip
(14) is attached to the needle shaft (14) by depositing the first material over an integral needle
tip form (1306).

12. The needle (10) of any one of the preceding claims, wherein the needle tip (14)
comprises:

a proximal end comprising one of a depression and protrusion; and

wherein forming the second material onto the needle tip (14) comprises depositing the
second material over a length of the needle tip (14) from a position distal of the depression or
protrusion to, and past, the proximal end of the needle tip (14).

13. The needle (10) of any one of claims 11 or 12, further comprising an intermediate
material formed on, or attached to, the integral needle tip form for heat dissipation during
depositing the first material.

14. The needle (10) of any one of claims 10 to 13, wherein the second material is formed
by moulding onto the first material.

15. The needle (10) of any one of claims 10 to 14, wherein the first material is bound to the second material during cooling or curing of the second material.
16. The needle (10) of any one of claims 10 to 15, wherein the needle tip comprises an aperture to form a window for viewing primary flashback.
17. The needle (10) of any one of the preceding claims further comprising:
a needle hub (16); and
a tether (506) connected between the needle tip (14) and needle hub (16), to couple the needle tip (14) to the needle hub (16).
18. The needle (10) of any one of the preceding claims, wherein the needle shaft (12) comprises a marking (32), the marking (32) being located on the needle shaft (12) to be visible during primary flashback.
19. A catheter assembly (1400) comprising:
a needle (10) according to any one of claims 1 to 18;
a catheter hub (1402); and
a catheter (18) connected to the catheter hub (1402) and surrounding the needle (10).
20. The catheter assembly (1400) according to claim 19, wherein the needle (10) comprises a needle tip (14) and a needle shaft (12) and wherein the needle shaft (12) comprises a marking (32) that is visible during primary flashback.
21. The catheter assembly (1400) according to claim 20, wherein the catheter (18) is transparent or translucent and the marking (32) is obscured by bodily fluid between the catheter and needle shaft during secondary flashback.
22. The catheter assembly (1400) according to any one of claims 19 to 21, further comprising a needle hub (16) attached to the needle (10).
23. The catheter assembly (1400) according to any one of claims 19 to 22, wherein the needle hub (16) is integrally formed with the needle (10).