CLAIMS

1. A syringe comprises a barrel ~~(1)~~ having a plunger ~~(2)~~ in slidable and sealing engagement therein, and a piercing member ~~(3)~~ formed integrally with the barrel ~~(1)~~, the piercing member ~~(3)~~ having a bore ~~(15)~~ in communication with the distal end of the barrel, and a piercing point ~~(17)~~ and an aperture ~~(18)~~ at its distal end ~~(22)~~, and the distal end of the barrel ~~(1)~~ also having a means ~~(13, 14)~~ for sealing connection of a transport cap ~~(30)~~, an intravenous port or an injection needle, the distal end ~~(22)~~ of the piercing member ~~(3)~~ being removable, characterised in that the distal end of the piercing member ~~(3)~~ has an external recess ~~(19)~~ and a corresponding internal step ~~(21)~~ to define a separation plane ~~(20)~~ for the distal end ~~(22)~~.

2. A syringe as claimed in claim 1, in which the distal end ~~(22)~~ of the piercing member ~~(13)~~ is removed by application of a substantially lateral force.

3. A syringe as claimed in claim 1 or claim 2, in which a separate protective cap ~~(4)~~ is provided to protect the piercing member ~~(3)~~ initially.

4. A syringe as claimed in claim 3, in which the protective cap ~~(4)~~ is removed to enable medications to be drawn up, and is then used to apply the force to remove the distal end ~~(22)~~ of the piercing member ~~(3)~~.

5. A syringe as claimed in claim 3 or claim 4, in which the protective cap ~~(4)~~ is constructed with an open-ended removal recess ~~(31)~~ at its distal end, separated from the recess ~~(33)~~ at its proximal end which fits over the piercing member ~~(3)~~ for protection.

6. A syringe as claimed in claim 5, in which the removal recess ~~(31)~~ at the distal end of the protective cap ~~(4)~~ fits over the distal end ~~(22)~~ of the piercing member ~~(3)~~.

7. A syringe as claimed in claim 6, in which the protective cap ~~(4)~~ is used to apply the force to remove the distal end ~~(22)~~ of the piercing member ~~(3)~~ and to retain the removed end in the removal recess ~~(31)~~ for disposal.

8. A syringe as claimed in claim 6 or claim 7, in which the removal recess ~~(31)~~ is shaped to conform to the profile of the distal end ~~(22)~~ of the piercing member ~~(3)~~.

9. A syringe as claimed in any of claims 3 to 8, in which the distal end of the cap ~~(4)~~ is provided with an enlarged portion ~~(37)~~.

10. A syringe as claimed in claim 9, in which the enlarged portion ~~(37)~~ includes a funnel ~~(41)~~ leading to the removal recess ~~(31)~~, to provide a guide for the removable distal end ~~(22)~~ of the piercing member ~~(3)~~.

11. A syringe as claimed in claim 10, in which the funnel ~~(41)~~ has one or more guide ribs ~~(42)~~.

12. A syringe as claimed in any preceding claim, in which the means ~~(13, 14)~~ for connecting the transport cap ~~(30)~~, the intravenous port or the injection needle is a luer lock connection.

13. A syringe as claimed in claim 12, in which the distal end of the barrel ~~(1)~~ is provided with a hollow cylindrical collar ~~(13)~~ surrounding the piercing member ~~(3)~~ and provided with an internal screw thread ~~(14)~~ of standard luer lock form.

14. A syringe as claimed in claim 13, in which the transport cap ~~(30)~~ is provided with a corresponding male screw thread of standard luer lock form.

15. A syringe as claimed in claim 12 or claim 13, in which the protective cap is provided with a corresponding male screw thread ~~(4, 5)~~ of standard luer lock form.

16. A syringe as claimed in claim 12 or claim 13, in which the protective cap ~~(4)~~ is provided with projections ~~(24)~~ for engagement with the internal screw thread.

17. A syringe as claimed in any preceding claim, in which the piercing member ~~(3)~~ is arranged so that after removal of its distal end ~~(22)~~ its proximal end ~~(23)~~ remains on the barrel ~~(1)~~, and acts as a support hub for the interior of the transport cap ~~(30)~~, the intravenous port or the needle.

18. A syringe as claimed in any preceding claim, in which the piercing member ~~(3)~~ has two apertures ~~(18)~~ at its distal end.

19. A syringe as claimed in any preceding claim, in which the syringe barrel and piercing member are moulded in one piece from a suitable plastics material.

20. A syringe as claimed in claim 19 as dependent on claim 13, in which the one-piece moulding also includes the hollow cylindrical collar.