CLAIMS

1. A method for collecting a blood component through apheresis, the method comprising:

drawing whole blood into a centrifuge from a donor;

introducing the whole blood into a blood component collection bladder having an inlet and an outlet, the whole blood being introduced through the outlet;

spinning the centrifuge to cause centrifugal force to act on the whole blood to separate the whole blood in the blood component collection bladder into a least plasma and a blood component comprising concentrated red blood cells;

separating plasma from the whole blood;

extracting the plasma through the outlet of the blood component collection bladder into a container;

detecting when red blood cells are being extracted through the outlet; and

after the red blood cells are detected and while the centrifuge continues to spin, forcing the plasma back into the blood component collection bladder through the outlet to move the red blood cells through the inlet and out of the blood component collection bladder.

2. The method of claim 1, wherein the centrifuge spins at a first speed when separating the plasma from the whole blood.

3. The method of claim 2, wherein the centrifuge continues to spin at the first speed when forcing the separated plasma back through the blood component collection bladder.

4. The method of claim 3, wherein the centrifuge spins at a second speed when drawing whole blood into the centrifuge from the donor.

5. The method of claim 4, wherein the second speed is slower than the first speed.

6. The method of claim 5, wherein the plasma is separated from the whole blood in a blood component collection set that is inserted into the centrifuge.

7. The method of claim 6, wherein the centrifuge includes a filler that spins the blood component collection set and wherein the blood component collection bladder is associated with the blood component collection set.

8. The method of claim 7, wherein the blood component collection bladder is inserted into a collection insert channel formed in the filler to hold the blood component collection bladder.

9. The method of claim 1, further comprising collecting, at least temporarily, at least some of the component comprising concentrated red blood cells in a chamber.

10. The method of claim 9, wherein the chamber is a drip chamber.

11. The method of claim 9, wherein the whole blood drawn from the donor bypasses the chamber.

12. The method of claim 1, further comprising sensing when the component containing concentrated red blood cells has been moved out of the blood component collection bladder through the inlet.

13. The method of claim 12, wherein sensing the component is sensing pressure.

14. The method of claim 12, further comprising passing the component containing concentrated red blood cells from the inlet and through a drip chamber and passing the whole blood through a bypass around the drip chamber.

15. An apheresis system comprising:

a first tube having a lumen, fluidly associated with the needle, that moves whole blood from a donor through the lumen;

a draw pump engaged with the first tube that draws the whole blood into a centrifuge;

the centrifuge that spins to cause centrifugal force to act on the whole blood to separate the whole blood into a least plasma and a blood component comprising concentrated red blood cells;

a blood component collection bladder, inserted into the centrifuge and fluidly associated with the first tube, that separates the plasma from the whole blood;

a second tube, fluidly associated the blood collection bladder, that moves the plasma from the blood component collection bladder;

a collection container, fluidly associated with the second tube, that collects the plasma;

a first sensor positioned in physical proximity to the second tube to detect the presence of red blood cells in the second tube; and

after red blood cells are detected by the sensor and while the centrifuge continues to spin, a return pump, engaged with the second tube, that forces the plasma back towards the blood component collection bladder through the second tube to move at least the component comprising red blood cells from the blood component collection bladder into the first tube, and

a second sensor for detecting when the component containing red blood cells has been expelled from the blood component collection bladder through the first tube.

16. The apheresis system of claim 15, further comprising an anticoagulant pump to draw anticoagulant from an anticoagulant bag and mix the anticoagulant with whole blood at a manifold or junction fluidly associated with the first tube.

17. The apheresis system of claim 15, wherein the centrifuge includes a filler that spins the blood component collection bladder.

18. The apheresis system of claim 17, wherein the blood component collection bladder is inserted into a collection insert channel formed in the filler to hold the blood component collection bladder.

19. The apheresis system according to claim 15, further comprising a chamber in said first tube and a bypass tube in parallel with said chamber and means for directing the whole blood through said bypass tube and for directing said component comprising concentrated red blood cells through said chamber.

20. The apheresis system according to claim 19, wherein the chamber is a drip chamber.

21. The apheresis system of claim 15, wherein the second sensor is a pressure sensor.