CLAIMS

1. A blood collection device, comprising:

a tubular container comprising a closed end and an open end opposite the closed end;

a plug sealing the open end; and

a partition within the tubular container,

wherein the partition separates the tubular container into a first chamber and a second chamber, wherein the first chamber and the second chamber are evacuated such that a pressure within the first chamber and a pressure within the second chamber are lower than ambient pressure, and wherein a size of the first chamber and a size of the second chamber are approximately equal before blood collection,

wherein the partition is impermeable to air and the first chamber and the second chamber are airtight.

2. The blood collection device of claim 1, wherein the first chamber is proximate the plug and the second chamber is proximate the closed end.

3. The blood collection device of claim 1, wherein the pressure within the first chamber and the pressure within the second chamber are equal.

4. The blood collection device of claim 2, wherein in response to blood being drawn into the first chamber, the pressure within the first chamber increases and the partition slides towards the closed end such that a size of the first chamber increases and a size of the second chamber decreases.

5. The blood collection device of claim 1, wherein the partition comprises a rubber plug, wherein an outer circumference of the rubber plug contacts the tubular container to form a seal.

6. The blood collection device of claim 1, wherein the partition comprises a body and an O-ring coupled to an outer perimeter of the body, wherein the O-ring contacts the tubular container to form a seal.

7. The blood collection device of claim 1, further comprising a lubricant disposed between the partition and the tubular container.

8. A blood collection device, comprising:

a tubular container comprising a closed end and an open end opposite the closed end;

a plug sealing the open end; and

a partition and another partition within the tubular container, wherein the partition and the other partition separate the tubular container into a first chamber, a second chamber, and a third chamber,

wherein the first chamber is disposed between the plug and the partition, ~~wherein~~ the second chamber is disposed between the partition and the other partition, and the third chamber is disposed between the other partition and the closed end,

wherein the first chamber, the second chamber, and the third chamber are evacuated such that a pressure within the first chamber, a pressure within the second chamber, and a pressure within the third chamber are lower than ambient pressure, and

wherein the partition and the other partition are impermeable to air and the first chamber, the second chamber, and the third chamber are airtight.

9. The blood collection device of claim 1, wherein the partition comprises an inner portion and an outer portion surrounding the inner portion, wherein the inner portion has a first durometer, wherein the outer portion has a second durometer, wherein the first durometer is greater than the second durometer.

10. A method of blood collection, comprising:

inserting a needle of a blood collection set into a vasculature of a patient, wherein the blood collection set comprises:

a hub;

the needle extending distally beyond the hub;

an adapter, comprising a cannula and an elastomeric sheath, wherein the elastomeric sheath is coupled to the adapter and envelopes the cannula;

an extension tube, comprising a distal end coupled to the hub and a proximal end coupled to the adapter;

coupling a blood collection device to the blood collection set by inserting the cannula into the blood collection device, wherein the blood collection device comprises:

a tubular container comprising a closed end and an open end opposite the closed end;

a plug sealing the open end; and

a partition within the tubular container, wherein the partition separates the tubular container into a first chamber and a second chamber, wherein the first chamber and the second chamber are evacuated such that a pressure within the first chamber and a pressure within the second chamber are lower than ambient pressure, wherein the partition is impermeable to air and the first chamber and the second chamber are airtight, wherein a size of the first chamber and a size of the second chamber are approximately equal before blood collection, and

wherein in response to coupling the blood collection device to the blood collection set the pressure within the first chamber increases, and the partition slides towards the closed end such that the size of the first chamber increases and the size of the second chamber decreases.

11. The method of claim 10, wherein the first chamber is proximate the plug and the second chamber is proximate the closed end.

12. The method of claim 10, wherein the pressure within the first chamber and the pressure within the second chamber are equal.

13. The method of claim 10, wherein in response to blood being drawn into the first chamber, the pressure within the first chamber increases and the partition slides towards the closed end such that a size of the first chamber increases and a size of the second chamber decreases.

14. The method of claim 10, wherein the partition comprises a rubber plug, wherein an outer circumference of the rubber plug contacts the tubular container to form a seal.

15. The method of claim 10, wherein the partition comprises a body and an O-ring coupled to an outer perimeter of the body, wherein the O-ring contacts the tubular container to form a seal.

16. The method of claim 10, further comprising a lubricant disposed between the partition and the tubular container.

17. A method of blood collection, comprising:

inserting a needle of a blood collection set into a vasculature of a patient, wherein the blood collection set comprises:

a hub;

the needle extending distally beyond the hub;

an adapter, comprising a cannula and an elastomeric sheath, wherein the elastomeric sheath is coupled to the adapter and envelopes the cannula;

an extension tube, comprising a distal end coupled to the hub and a proximal end coupled to the adapter;

coupling a blood collection device to the blood collection set by inserting the cannula into the blood collection device, wherein the blood collection device comprises:

a tubular container comprising a closed end and an open end opposite the closed end;

a plug sealing the open end; and

a partition and another partition within the tubular container, wherein the partition and the other partition separate the tubular container into a first chamber, a second chamber, and a third chamber,

wherein the first chamber is disposed between the plug and the partition, wherein the second chamber is disposed between the partition and the other partition, and the third chamber is disposed between the other partition and the closed end,

wherein the first chamber, the second chamber, and the third chamber are evacuated such that a pressure within the first chamber, a pressure within the second chamber, and a pressure within the third chamber are lower than ambient pressure, and

wherein the partition and the other partition are impermeable to air and the first chamber, the second chamber, and the third chamber are airtight; and

wherein in response to coupling the blood collection device to the blood collection set the pressure within the first chamber increases, and the partition slides towards the closed end such that the size of the first chamber increases and the size of the second chamber decreases.