

CLAIMS

1. A catheter system comprising:
 - a catheter assembly, comprising:
 - a catheter hub, comprising a distal end, a proximal end, an open passageway extending through the distal end and the proximal end, and a side port;
 - extension tubing in fluid communication with the side port;
 - a catheter extending distally from the distal end; and
 - a septum disposed within the open passageway; and
 - a needle assembly, comprising:
 - a hollow handle;
 - a grip portion coupled to the hollow handle;
 - a needle carriage configured to slidably translate within the hollow handle and the grip portion between a first position and a second position;
 - a spring coupled to the needle carriage;
 - an elongate needle comprising a sharp distal point, wherein the elongate needle is coupled to the needle carriage, wherein the sharp distal point of the elongate needle is disposed distal to the catheter when the needle carriage is in the first position, wherein the sharp distal point is disposed within the needle assembly when the needle carriage is in the second position; and
 - a trigger portion comprising a trigger button and a keyhole opening, wherein the keyhole opening comprises a narrow portion and an enlarged portion compared to the narrow portion, wherein the narrow portion engages the needle carriage to maintain the elongate needle in the first position, wherein in response to pressing the trigger button, the needle carriage moves from the narrow portion to the enlarged portion and the spring retracts the needle carriage from the first position to the second position.
2. The assembly of claim 1, wherein the septum comprises a septum lumen disposed between a first septum opening and a second septum opening.
3. The assembly of claim 1, wherein the needle carriage comprises a carriage extension configured to detachably couple with a proximal fitting of the catheter hub.

4. The assembly of claim 1, wherein the needle carriage comprises a needle carriage cavity in fluid communication with an open bore of the elongate needle.
5. The assembly of claim 1, wherein the needle carriage comprises a neck configured to engage a trigger tab to maintain the elongate needle in the first position, wherein the neck comprises an indent, wherein the indent contacts the narrowed portion.