## Claims

1. A device for penetrating vessel wall comprising:

a trigger housing having a resilient means, a trigger haemostatic valve and a trigger arranged between the resilient means and the trigger haemostatic valve, the resilient means arranged to urge the trigger towards the trigger haemostatic valve, and the trigger haemostatic valve provided to prevent blood leakage into the trigger;

a catheter housing having a flexible catheter tube, a needle provided within the flexible catheter tube with a sharp end extending from one end of the flexible catheter tube, a stylet provided within the needle with one end coupled to the trigger and an opposing end extending out of the sharp end of the needle; and

a flash back chamber arranged between the catheter housing and the trigger haemostatic valve, wherein the trigger is between an extended position where the stylet extends out of the needle shielding the needle and a retracted position where the trigger moves away from the trigger haemostatic valve retracting the stylet and exposing the needle.

2. The device according to claim 1 wherein the catheter housing further comprises:

a catheter haemostatic valve provided at an end opposing the sharp end of the needle and arranged such the flash back chamber is between the catheter haemostatic valve and the trigger haemostatic valve, wherein the catheter haemostatic valve is provided to reduce and prevent blood leakage during needle removal.

3. The device according to claim 1 wherein the flash back chamber is translucent.

4. The device according to claim 1 wherein the resilient means is a spring.

~~5. A method for penetrating vessel wall using the device according to claim 1, the method comprising:~~

~~moving the trigger to the retracted position and position the device such that the needle is aligned to a target piercing entry point;~~

~~piercing a skin;~~

~~observing the flash back chamber and continue to insert the needle;~~

~~releasing the trigger in response to observing fluid in the flash back chamber;~~

~~advancing the flexible catheter tube; and~~

~~removing the catheter housing together with the stylet and needle, the flash back chamber and the trigger housing, leaving behind the flexible catheter tube and catheter haemostatic valve.~~