Clot Ingestion by Impella RP® after Transition from ECMO

What’s New?
Routine surveillance of Impella RP catheters inserted immediately after or simultaneous with ECMO explantation have a higher rate of clot ingestion causing hemolysis or pump stop. Failure analysis has shown thrombus ingestion at the pump inlet (believed to originate from the ECMO cannula) and can result in low flow, high pump setting values with accompanying hemolysis as evidenced by elevated pfHb or sudden pump stop.

Analysis of these pumps have shown them to have clot restricting impeller movement with pumps functioning normally after the thrombus removal.

Recommendations
1. Insertion of RP with the ECMO venous cannula in place should be avoided.
2. In patients with isolated RV failure without hypoxia, with or without left sided hemodynamic support, use Impella RP without first using ECMO if possible.
3. If ECMO is used first (such as patients with cardiac arrest or profound hypoxia), removing the venous cannula prior to insertion of Impella RP is preferred.

There have been situations in which an Impella RP suffers a pump stop after ECMO cannula manipulation. If the Impella RP is seen to have ingested clot, do not attempt to remove the clot and reinsert the catheter. Total clot removal cannot be adequately performed without disassembly of the motor housing. A new second pump should be used at no charge to the account as long as your Abiomed rep initiates a SPR (System Problem Report).

Flow Rate: Greater than 4.0 L/min*

*Flow rate can vary due to suction or incorrect positioning. See Instructions for Use for more information.