



Scisense Pressure-Volume Catheters: *Benefits of the Scisense Recessed Pressure Window*

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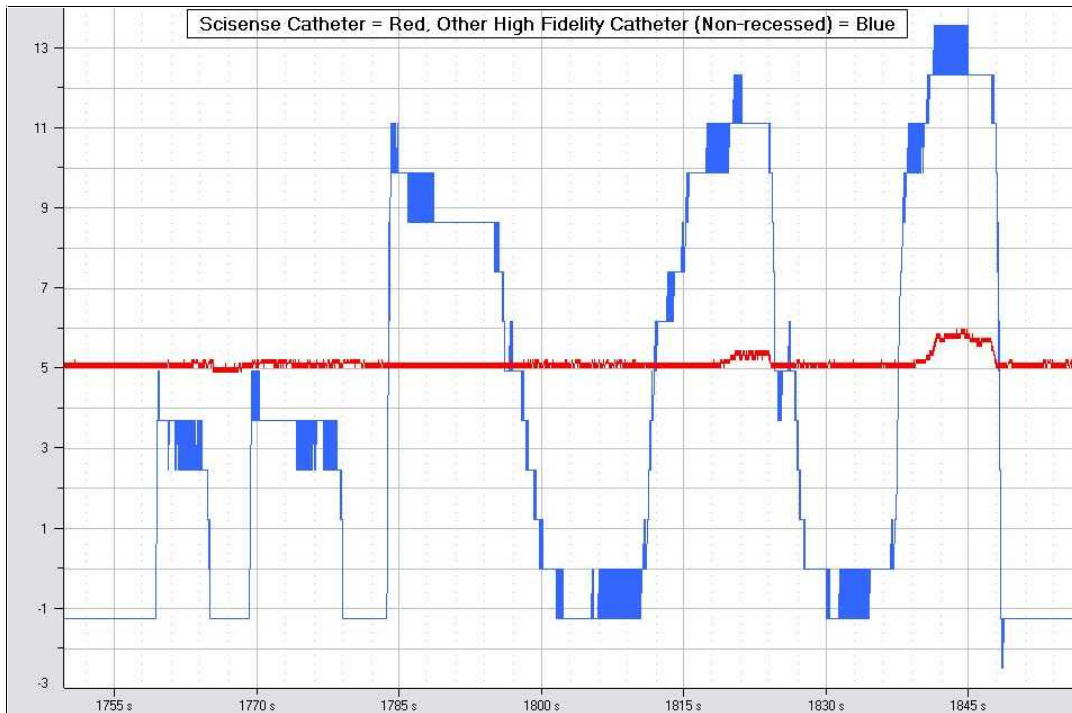
Purpose: To demonstrate the benefits of a recessed pressure window

Methodology:

- 1) A Scisense catheter and another “high fidelity” catheter with a non-recessed pressure window were mounted on a flat horizontal plane with the pressure windows facing up.
- 2) A +5 mmHg offset was necessary on the Scisense catheter to avoid disappearing behind the substantial baseline noise of the other high fidelity catheter.
- 3) Utilizing a micro manipulator with a soft foam mounted on the arm, the foam was brought down in 0.25 mm increments
- 4) Upon seeing a change in pressure from the other high fidelity catheter the foam was raised and lowered to ensure repeatability with an increase in incremental step size

Observations:

The Scisense recessed pressure window was less susceptible to sidewall impacts unrelated to pressure changes in the surrounding environment as demonstrated in the figure shown below. The Scisense catheter showed no change in pressure at the same time as a 6 mmHg artefact appeared on the other high fidelity catheter which had the non-recessed pressure window. Similarly, a larger artefact on the other high fidelity catheter of 13 mmHg showed as a 1mm artefact on the Scisense pressure catheter.



Conclusion:

The other high fidelity catheter with the “non-recessed” pressure window has increased potential for erroneous data collection due to side impacts from the ventricular or arterial walls during the cardiac cycle.