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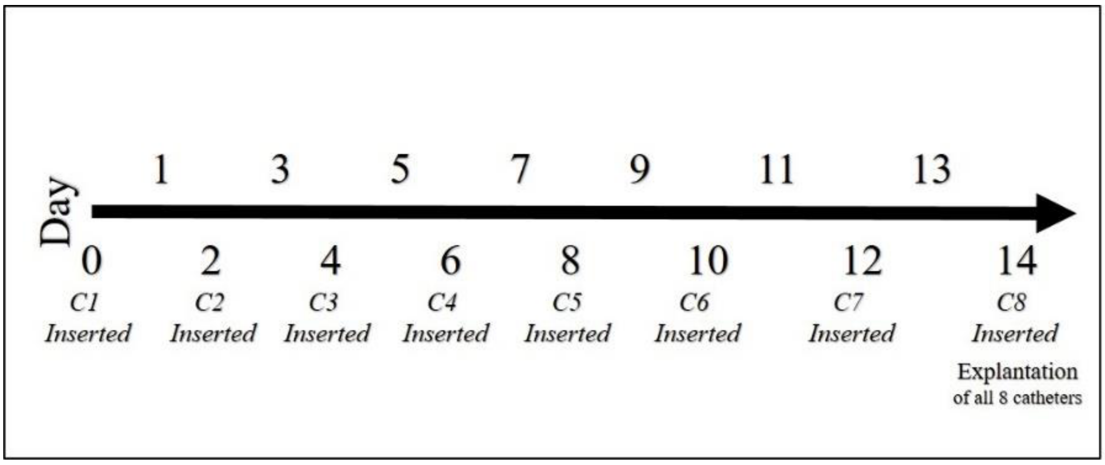

Figure S1: Study Timeline.

Table S1: Study Medications.

Drug	Type	Dosage	Route	Frequency	Reason for Administration	Pharma Grade?
Buprenorphine	Analgesic	0.005-0.01 mg/kg	IM	Every 12 hrs. as needed	Analgesia	Yes
Telazol	Anesthetic	3 to 5 mg/kg (tiletamine+zolazepam 50 mg/mL of each)	IM	Once every 2 days for 7 days	Sedation	Yes
Isoflourane	Anesthetic	0.1 – 3.0%	Inhaled	Continuous during GA	Anesthetic induction/maintenance	Yes
Atropine	Anticholinergic	0.02-0.1 mg/kg	IM	Prior to induction	Prevention of anesthesia induced bradycardia	Yes
Insulin	Other	U-10 Lispro Insulin (10 units/mL)	SQ	Continuous infusion	Infused through CSII catheter to affect immune response to catheter insertion	Yes
Saline/Fluids (NaCl, LR, Dextrose Solutions)	Maintenance	Titrated for fluid maintenance and homeostasis	IV	Continuous infusion during	20% Dextrose to prevent hypoglycemia and blood glucose maintenance. Saline used to maintain intravascular volume during surgical procedures.	Yes
Glucagon	Other	1 mg: repeat PRN	IM	As needed	Rescue for hypoglycemia	Yes
Beuthanesia/ Euthasol	Other	1 mL/10 lbs body weight. Higher dose as needed	IV	Once at time of euthanasia	Euthanasia	Yes

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Figure S2: Commercial CSII catheters inserted in the swine abdomen (left). Battery powered insulin pumps are protected in pockets of a swine vest (right).

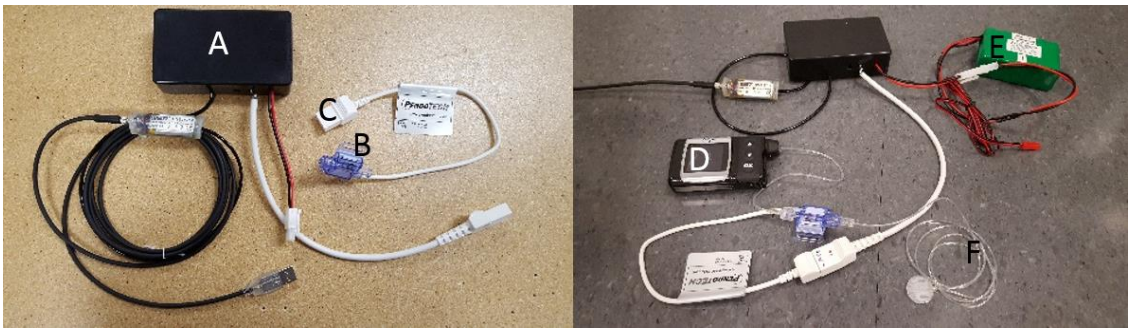

Figure S3. Setup for pressure measurement in CSII tubing. A: data logger; B: pressure sensor connected to tubing; C: connector for data logger; D: insulin pump; E: battery; F: CSII tubing

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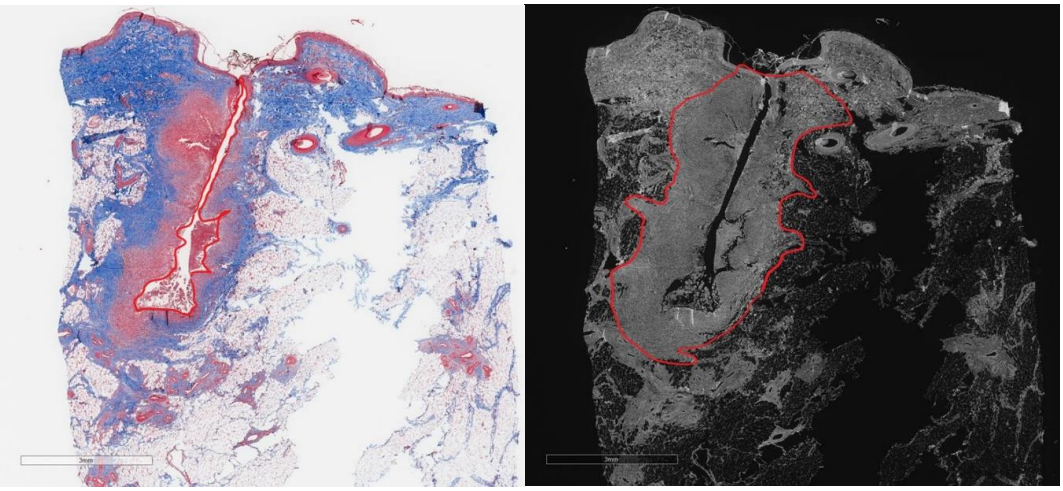

Figure S4: Histology analysis of the area of inflammation using ImageJ.

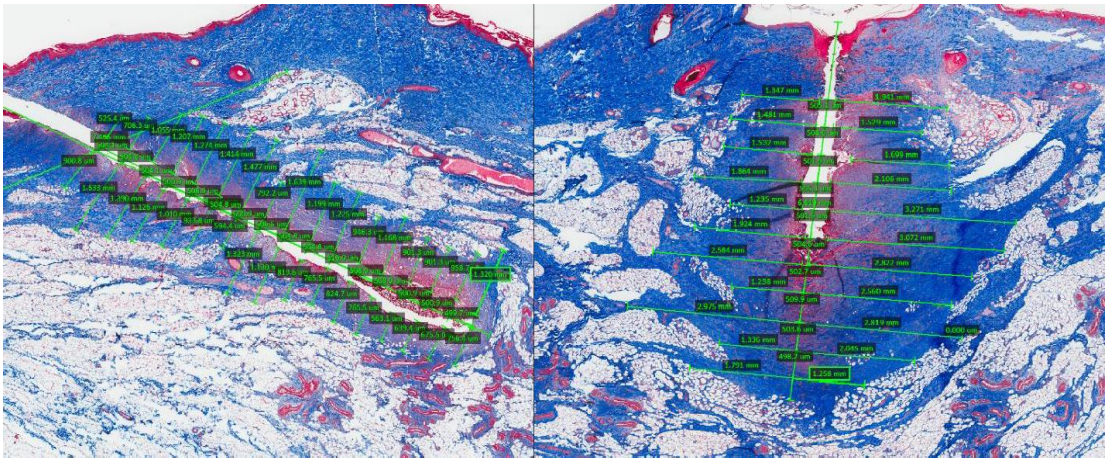

Figure S5: Example of measurement of the thickness of the layer of inflammation. Due to variability in the total channel length visible for each catheter, the thickness measurement was standardized to 4 points (Upper Left and Right, and Lower Left and Right). This created a standard measurement for each histology image (n=4).

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Table S2: Number of samples included in the micro-CT analysis

Day	30 Degree Insertion	90 Degree Insertion
0	6	4
2	6	4
4	5	3
6	6	4
8	5	4
10	6	4
12	6	4
14	6	3
Total	46	30

Table S3: Number of samples included in the *"Area of Inflammation"* analysis.

Day	30 Degree Insertion	90 Degree Insertion
0	1	5
2	2	5
4	2	5
6	4	4
8	4	5
10	4	5
12	6	5
14	5	4
Total	28	38

Table S4: Number of samples included in the *"Layer of Inflammation"* analysis.

Day	35 Degree Insertion	90 Degree Insertion
0	8	20
2	8	20
4	8	20
6	16	20
8	20	16
10	16	20
12	24	20
14	20	16
Total	120	152