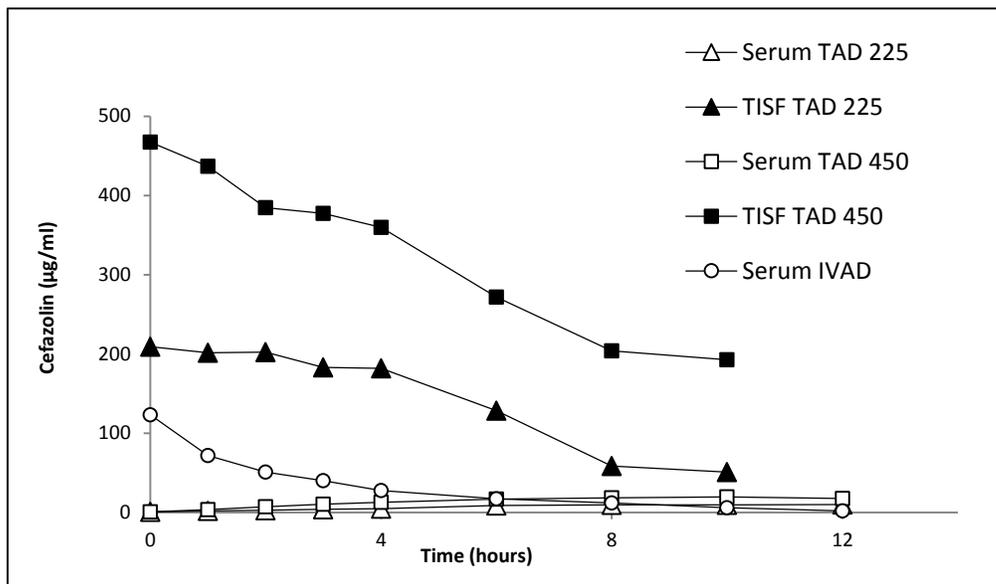
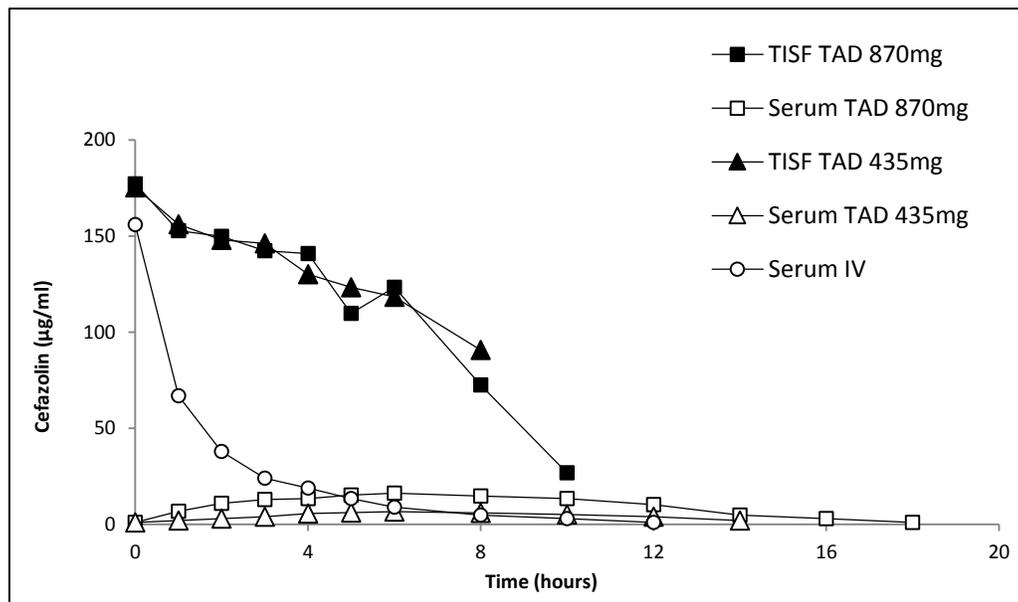


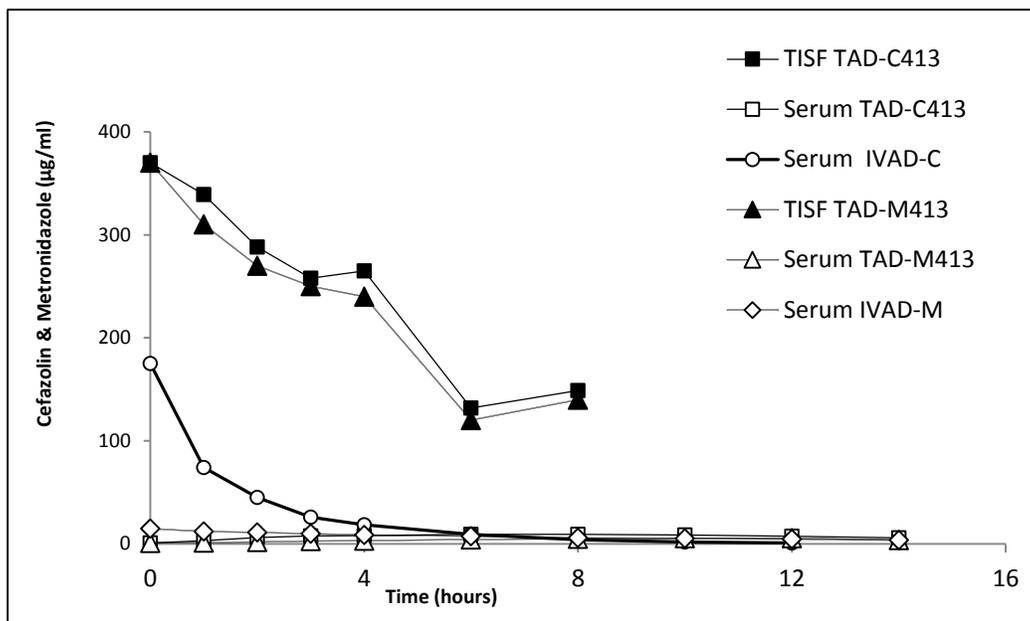
**Figure S1. Linear Concentration Axis.** Cefazolin total concentration-time profiles (linear scales) of a 74.3kg female on three occasions: open circle (serum after 1gm IVAD; solid triangle (TISF of abdomen) and open triangle (serum) after 1gm TAD at 450mg/L; solid square (TISF of abdomen) and open square (serum) after 1gm TAAD at 900mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



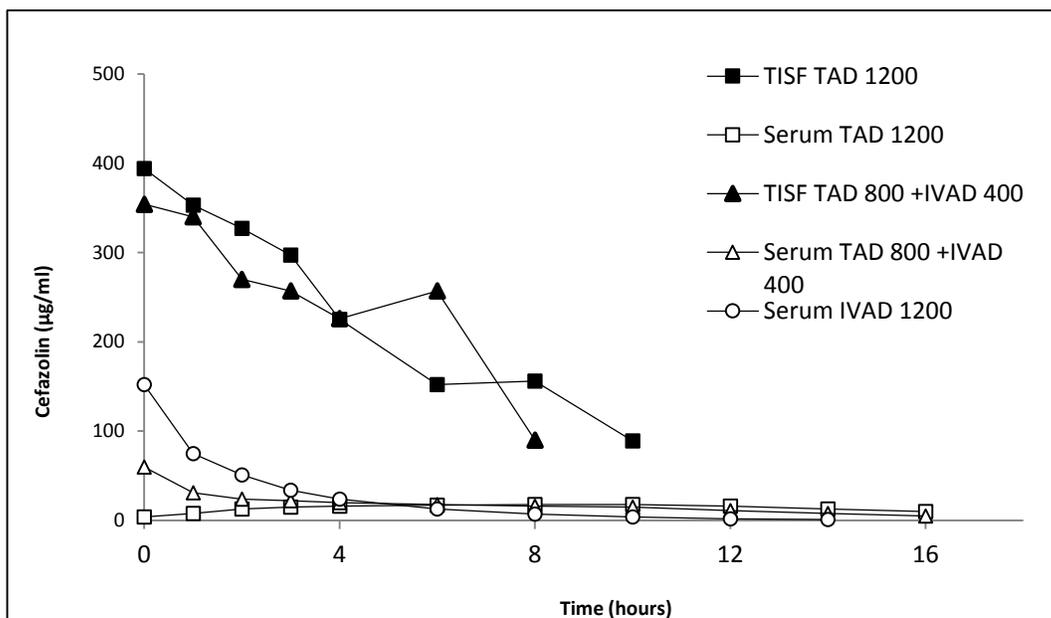
**Figure S2. Linear Concentration Axis.** Cefazolin total concentration-time profiles (linear scales) of a 76.4kg female on three occasions: open circle (serum after 1gm IVAD; solid triangle (TISF of breasts) and open triangle (serum) after 500mg TAD at 225mg/L; solid square (TISF of breasts) and open square (serum) after 1gm TAD at 450mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



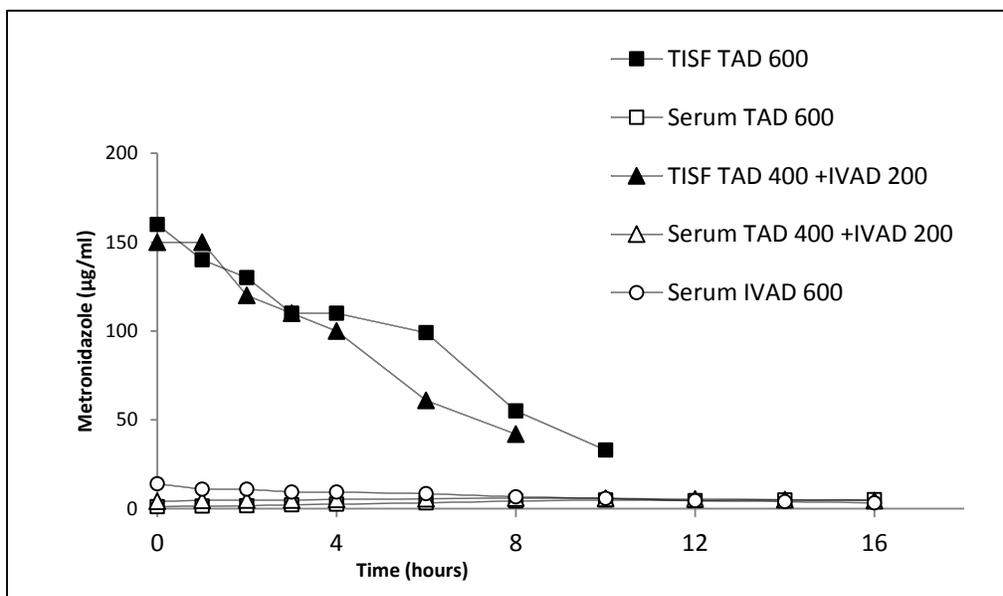
**Figure S3. Linear Concentration Axis.** Cefazolin total concentration-time profiles (linear scale) of a 66.4kg female on three occasions: open circle (serum after 1gm IVAD; solid triangle (TISF of one hip and outer thigh) and open triangle (serum) after 435mg TAD at 228g/L; solid square (TISF of bilateral hips and outer thighs) and open square (serum) after 870mg TAD at 228mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



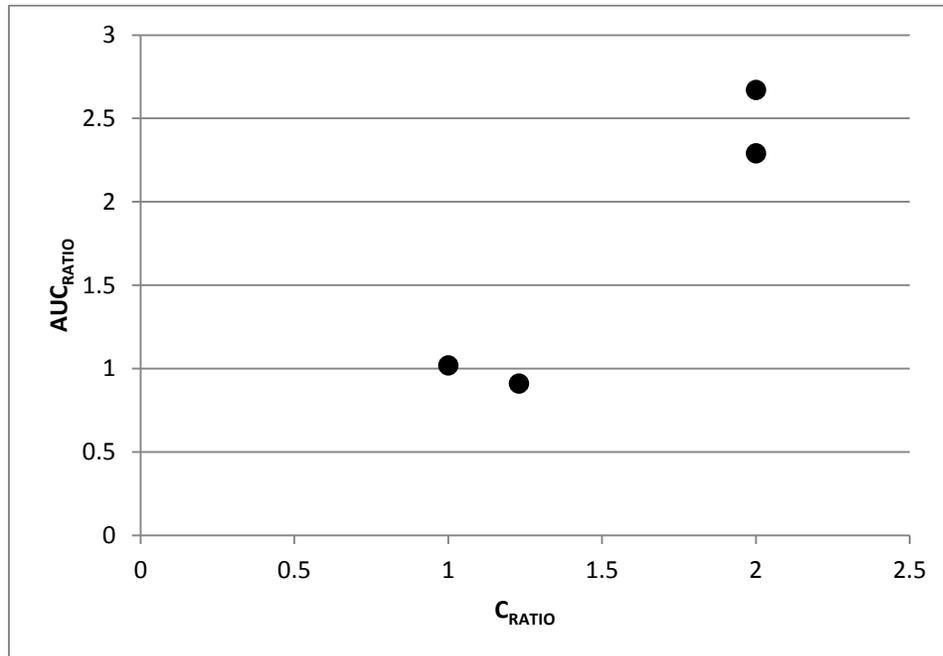
**Figure S4. Linear Concentration Axis.** Cefazolin and metronidazole concentration-time profiles (linear scales) of a 66.4kg female on three occasions: open circle (serum) after 500mg cefazolin IVAD; open diamond (serum) after 500mg metronidazole IVAD; solid triangle (TISF) after TAD into abdomen of 500mg cefazolin at 413mg/L; open triangle (serum) after TAD into abdomen of 500mg cefazolin at 413mg/L; solid square (TISF) after TAD into abdomen of 500mg metronidazole at 413mg/L; open triangle (serum) after TAD into abdomen of 500mg metronidazole at 413mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



**Figure S5a. Linear Concentration Axis.** Cefazolin total concentration-time profiles (linear scales) of an 83kg female on three occasions: open circle (serum) after 1200mg cefazolin IVAD; solid triangle (TISF) after 800mg TAD at 400mg/L and 400 mg IVAD simultaneously; open triangle (serum) after 800mg TAD at 400mg/L and 400 mg IVAD simultaneously; solid square (TISF) after 1200mg TAD at 345mg/L; open square (serum) after 1200mg TAD at 345mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



**Figure S5b. Linear Concentration Axis.** Metronidazole total concentration-time profiles (linear scales) of an 83kg female on three occasions: open circle (serum) after 600mg metronidazole IVAD; solid triangle (TISF) after 400mg TAD at 200mg/L and 200 mg IVAD simultaneously; open triangle (serum) after 400mg TAD at 200mg/L and 200 mg IVAD simultaneously; solid square (TISF) after 600mg TAD at 172mg/L; open square (serum) after 600mg TAD at 172mg/L. This linear-linear graph provides a different perspective (compared to the log-linear graph) of the differences between concentrations of cefazolin in subcutaneous tumescent interstitial tissue following TAAD and serum concentrations following IVAD.



**Figure S6. Correlation between Bioavailability & TAAD Concentration.** Bioavailability of cefazolin in subcutaneous tissue is closely correlated with the cefazolin concentration in TAAD solutions. Four of our research subjects received TAAD infiltrations twice. For each subject, the higher concentration is designated by  $C_H$  and the lower concentration is designated by  $C_L$ . A concentration ratio  $C_{RATIO}(i) = C_H/C_L$  was determined for each of the four subjects,  $i = 1,2,3,4$ .

The term  $AUC_H$  represent the bioavailability of cefazolin, as measured by the area under the curve (AUC) of cefazolin concentration-time profile, within subcutaneous tumescent interstitial fluid (TISF) following TAAD using the higher concentration of cefazolin. Similarly, the cumulative exposure following TAAD using the lower concentration  $C_L$  of cefazolin is defined as  $AUC_L$ . The ratio  $AUC_{RATIO}(i) = AUC_H/AUC_L$  was determined for each of the four subjects. We observed a strong correlation between  $C_{RATIO}(i)$  and  $AUC_{RATIO}(i)$ , where  $i = 1,2,3,4$ , with a correlation coefficient  $r=0.958$ . This indicates that, within the range of concentrations studied, an increasing concentration of cefazolin in the TAAD solution provides increased bioavailability of cefazolin within TISF.

### SDC7. Raw Data: TLA Formulations & Lidocaine Dosages for Each TAAD Subject

Study Number & Area	#1 Abdomen		#2 Bilateral Breasts		#3 Hips & Outer Thigh(s)		#4 Abdomen	#5 Abdomen	
	TAD-900	TAD-450	TAD-225	TAD-450	TAD-870	TAD-435	TAD	TAD1	TAD2 + IVAD
Cefazolin Concentration in TAAD	1gm/100ml	500mg/100ml	1gm/100ml	1gm/100ml	850mg/85ml	850mg/85ml	1gm/100ml	1gm/100ml	1gm/100ml
Lidocaine 1%	1ml	1ml	1ml	1ml	0.85ml	0.85ml	1ml	1ml	1ml
Epinephrine 1:1000	10ml	10ml	10ml	10ml	10ml	10ml	10ml	10ml	10ml
Sodium Bicarb 1 mEq/ml	1000ml	1000ml	1000ml	1000ml	1,000ml	1,000ml	1000ml	1000ml	809ml
Physiologic saline 0.9%	1,111ml	1,111ml	1,111ml	1,111ml	1,096ml	1,096ml	1,211ml	1,221ml	1000ml
Total volume per bag	1,111ml	2,222ml	2,222ml	2,222ml	3,774ml	1,887ml	1,211ml	3,483 ml	2000 ml
Total Volume Infiltrated	900mg/L	900gm/L	900mg/L	900mg/L	775mg/L	775mg/L	825mg/L	819mg/L	1gm/L
[Lidocaine] Conc. in TAAD	0.9mg/L	0.9mg/L	0.9mg/L	0.9mg/L	0.77mg/L	0.77mg/L	0.83mg/L	0.82mg/L	1mg/L
[Epinephrine] Conc. in TAAD	1000mg	2000mg	2000mg	2000mg	2922mg	1461mg	1000mg	2853mg	2000mg
TLA Lidocaine dose (mg)	74.3kg	74.3kg	76.4kg	76.4kg	66.4kg	66.4kg	66.4kg	83kg	83kg
Weight (kg)	13.45mg/kg	26.9mg/kg	26.2mg/kg	26.2mg/kg	44mg/kg	22mg/kg	15.1mg/kg	34.4mg/kg	24.1mg/kg
TLA Lidocaine Dosage (mg/kg)									

**SDC7. Tumescant Lidocaine Dosages.** This table of Supplemental Digital Content provides detailed data on tumescant lidocaine dosage data for each of the 5 subjects who received Tumescant Anesthesia Antibiotic Delivery.

## SDC8. Raw Data, Cefazolin in TAAD Solutions, Cmax & AUC Results

Study Number & Area	#1 Abdomen		#2 Bilateral Breasts		#3 Hips & Outer Thigh(s)		#4 Abdomen	#5 Abdomen	
Cefazolin (CEF)	TAAD-450	TAAD-900	TAAD-225	TAAD-450	TAAD-435	TAAD-870	TAAD	TAAD1	TAAD2 + IVAD
Physiologic saline 0.9%	1000ml	1000ml	1000ml	1000ml	1,000ml	1,000ml	1000ml	1000ml	809ml
Total volume per bag	1,111ml	1,111ml	1,111ml	1,111ml	1,096ml	1,096ml	1,211ml	1,221ml	1000ml
Total Volume Infiltrated	2,222ml	1,111ml	2,222ml	2,222ml	1,887ml	3,774ml	1,211ml	3,483 ml	2000 ml
Patients weight (kg)	74.3kg		76.4kg		66.4kg		66.4kg	83kg	83kg
Cefazolin IVAD dose (mg)	1 gm		1gm		1 gm		500 mg	1,200mg	
Cefazolin TAAD dose (mg)	1 gm	1 gm	1gm	500mg	435 mg	870mg	500 mg	1,200mg	400mgIVAD + 800mgTAD
[Cefazolin] Concentration in TAAD	450mg/L	900mg/L	450mg/L	225mg/L	228mg/L	228mg/L	413mg/L	345mg/L	400mg/L
Cmax[Serum]IVAD	146.1mg/L		123.3mg/L		156mg/L		175mg/L	152mg/L	
Cmax[TISF]TAD	456.8mg/L	822.7mg/L	467.4mg/L	209.4mg/L	177.2mg/L	175.3mg/L	370mg/L	394mg/L	354mg/L
Cmax[Serum]TAAD	11mg/L	20.2mg/L	19.8mg/L	10.2mg/L	6.6mg/L	16.2mg/L	9.3mg/L	18mg/L	60mg/L
AUC[TISF]TAAD	2339	5349	4071	1586.6	1332	1196	2580.5	2484	2257
AUC[Serum]TAAD	111.6	245.8	239.9	114.5	64.6	178	129	144	288
AUC[Serum]IVAD	324.2	324.2	124.3	124.3	270.6	270.6	292.2	325	325
Cefazolin TISF = AUC[TISF]TAD / AUC[Serum]IVAD	7.21	16.5	17	12.8	4.92	4.42	8.83	7.64	6.94
Cefazolin Serum = AUC[Serum]TAAD / AUC[Serum]IVAD	0.34	0.76	1.93	0.92	0.24	0.66	0.44	0.44	0.89

**SDC8. Cefazolin Raw Data.** This table of Supplemental Digital Content provides detailed data on the Cefazolin dosage, Cmax and AUC for each of the 5 subjects who received Tumescant Anesthesia Antibiotic Delivery. The AUC of antibiotic concentration-time profile in tumescant interstitial fluid (TISF) is directly dependent on the concentration of the antibiotic in the TAAD solution. If the antibiotic concentration in a TAAD solution is doubled, while the mg-dose is held constant, the AUC will double.

## SDC9. Raw Data. Metronidazole in TAAD Solutions, Cmax & AUC Results

Study Number & Area	#4 Abdomen	#5 Abdomen	
Metronidazole (CEF)	TAAD	TAAD1	TAAD2 + IVAD
Physiologic saline 0.9%	1000ml	1000ml	809ml
Total volume per bag	1,211ml	1,221ml	1000ml
Total Volume Infiltrated	1,211ml	3,483 ml	2000 ml
Patients weight (kg)	66.4kg	83kg	83kg
Metronidazole IVAD dose (mg)	500 mg	600mg	
Metronidazole TAAD dose (mg)	500mg/100ml	600mg/120ml	200mg IVAD + 400mg TAD
Metronidazole Concentration in TAAD	413mg/L	172mg/L	200mg/L
Metronidazole Cmax[Serum]IVAD	15 mg/L	14 mg/L	
Metronidazole Cmax[TISF]TAAD	370 mg/L	160mg/L	150mg/L
Metronidazole Cmax[Serum]TAAD	5.5mg/L	4.8mg/L	5.9mg/L
AUC[TISF]TAAD	2595	1032	853
AUC[Serum]TAAD	67	81	114.6
AUC[Serum]IVAD	121.9	127	127
Metronidazole = AUC[TISF]TAAD) / AUC[Serum]IVAD	21.3	8.13	6.72
Metronidazole: AUC[Serum]TAAD) / AUC[Serum]IVAD	0.55	0.64	0.9

**SDC9. Metronidazole Raw Data.** This table of Supplemental Digital Content provides detailed data on the metronidazole dosage, Cmax and AUC for each of the 5 subjects who received Tumescant Anesthesia Antibiotic Delivery. The AUC of antibiotic concentration-time profile in tumescant interstitial fluid (TISF) is directly dependent on the concentration of the antibiotic in the TAAD solution. If the antibiotic concentration in a TAAD solution is doubled, while the mg-dose is held constant, the AUC will double.