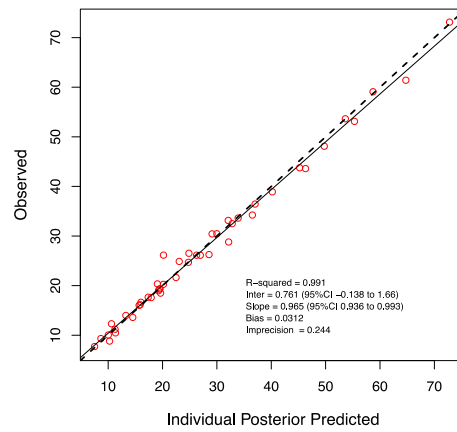
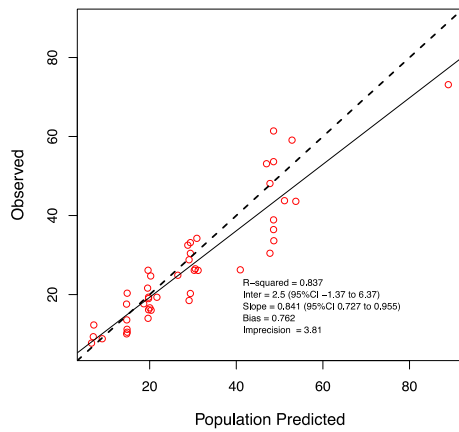


**Supplemental Figure 1.**

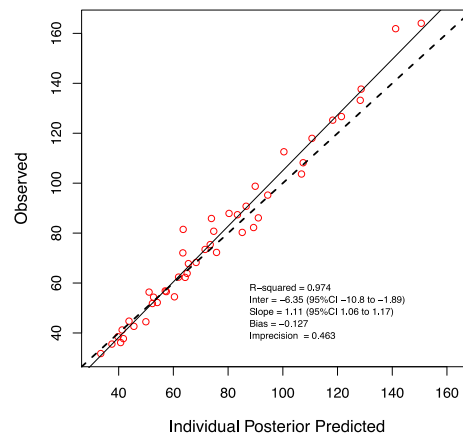
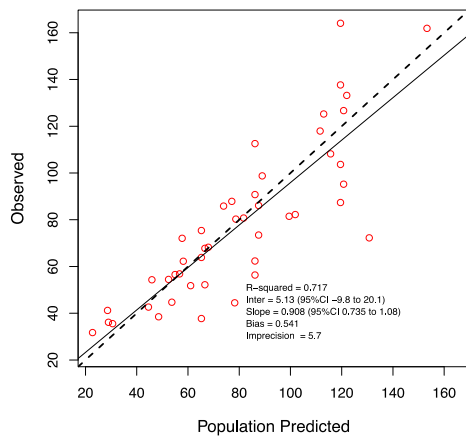
Schematic of pharmacokinetic model compartments for a single intravenous bolus of cefazolin in obese adult women undergoing elective cesarean Section.

$V_c$  = central volume;  $K_{OFF}$  = first-order dissociation rate constant; and  $K_{ON}$  = second-order association rate constant;  $K_{ct}$  = rate constant for unbound cefazolin distribution from the central to the tissue compartment;  $K_{tc}$  = rate constant for unbound cefazolin distribution from the tissue to the unbound central compartment;  $V_m$  = tissue volume;  $K_{cp}$  = rate constant for unbound cefazolin distribution from the central to peripheral compartment;  $K_{pc}$  = rate constant for cefazolin distribution from the peripheral to the central compartment;  $K_e$  = rate of elimination.

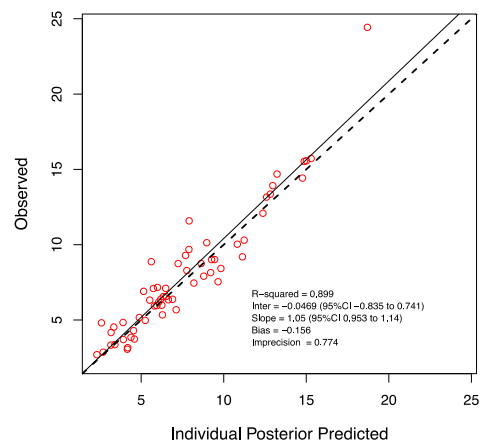
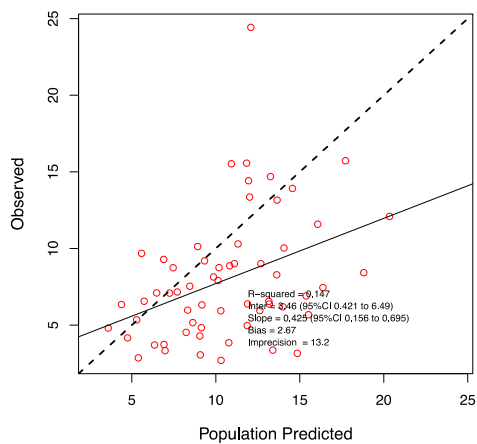
A



B



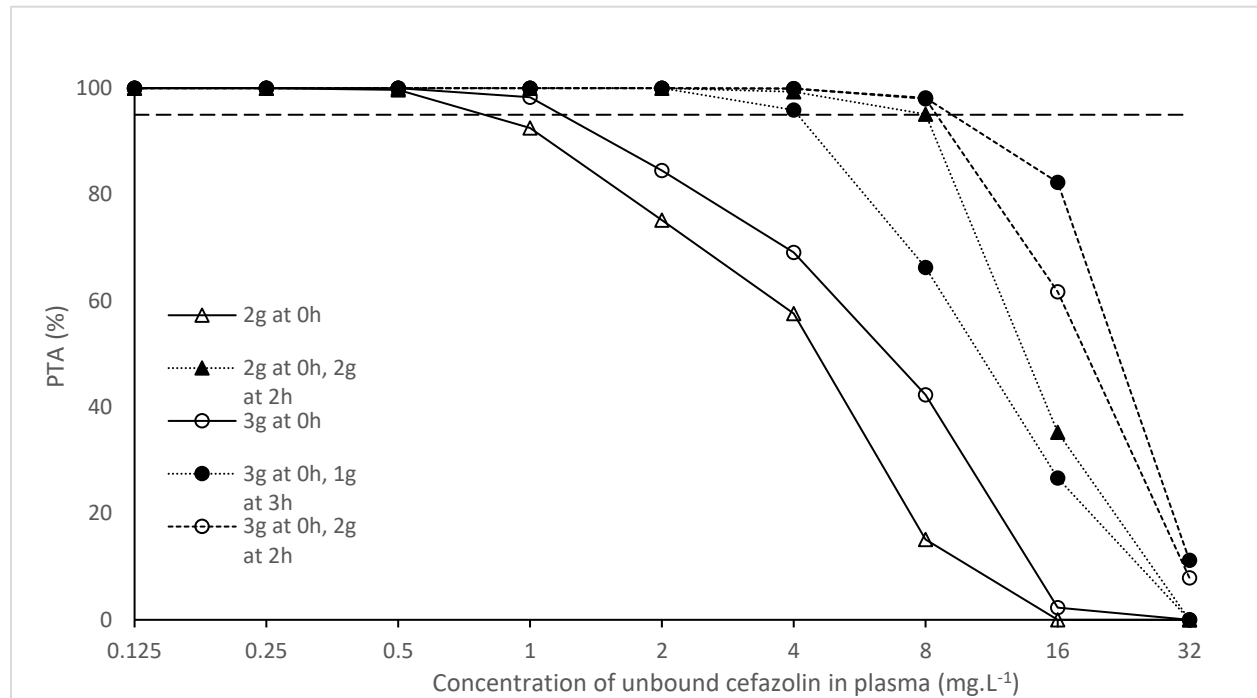
C



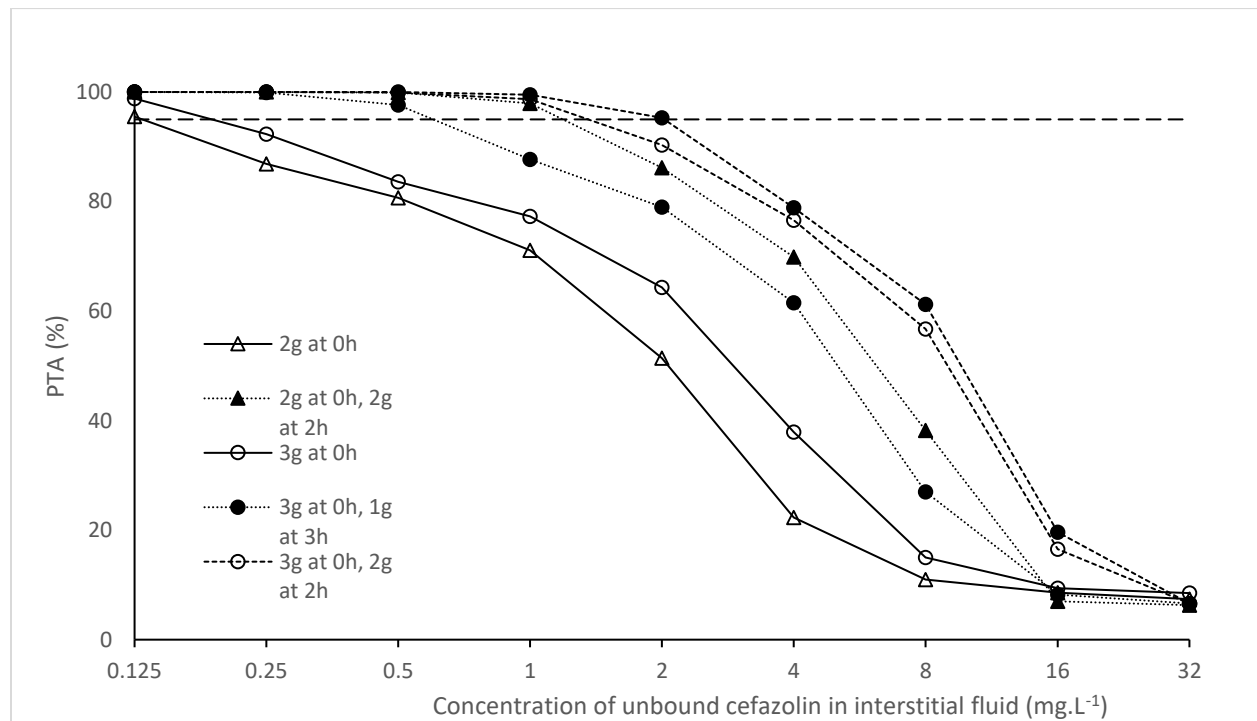
### Supplemental Figure 2.

Population and individual predicted concentrations versus concentrations diagnostic plots for the final covariate model for unbound plasma cefazolin concentrations (A), total cefazolin in plasma concentrations (B) and unbound cefazolin in tissue concentrations (C). Data are presented in mg.L<sup>-1</sup>.

A



B

**Supplemental Figure 3.**

Monte Carlo simulations and probability of target attainment (PTA), (x axis) for achieving unbound cefazolin concentrations in plasma (A) and tissue (B) for pre-operative 2 or 3 gram dose regimens with either no re-administration or re-administration at 1 hour, 2 hours or 3 hours to an average obese woman (body weight of 119 kg) undergoing elective cesarean section of up to 3 hours duration. The horizontal broken line represents a PTA of 95%. 2 grams at 0 hours (open triangle), 2 grams at 0 hours, 2 grams at 2 hours (filled triangle), 3 grams at 0 hours (open circle), 3 grams at 0 hours, 1 gram at 3 hours (filled circle), 3 grams at 0 hours, 2 grams at 2 hours (open circle with dashed line).