Table S2: Parameter shrinkage for the selected models

Gastric emptying model		**Cholecystokinin model**		**Gallbladder emptying model**	
Parameter	Shrinkage (%)	Parameter	Shrinkage (%)	Parameter	Shrinkage (%)
η–shrinkage[a]		*η–shrinkage*[a]		*η–shrinkage*[a]	
V_C/F	26	$BASE_{CCKF}$	5.3	$BASE_{BILE}$	3.1
F_1	6.7	$POOL_{CCKL}$	12	K_{RB}	34
K_{G0}	21	K_{outF}	13	$S_{50\text{-}BILE}$	16
SLP_{CAL}[b]	45				
K_{DJ}[b]	23				
ε–shrinkage[c]	17	*ε–shrinkage*[c]	13	*ε–shrinkage*[c]	17

$BASE_{BILE}$ baseline gallbladder volume; $BASE_{CCKF}$ baseline plasma concentrations of CCK_F; F_1 relative acetaminophen bioavailability; K_{DJ} nutrient transfer rate constant between duodenum and jejunum; K_{G0} baseline gastric emptying rate constant; K_{outF} the CCK_F plasma disappearance rate constant; K_{RB} gallbladder emptying rate constant; $POOL_{CCKL}$ pool size of CCK_L; $S_{50\text{-}BILE}$ nutrients signal leading to 50% effect of $S_{MAX\text{-}BILE}$; SLP_{CAL} slope of the caloric feedback loop on gastric emptying; V_C/F apparent acetaminophen central volume of distribution

[a] η–shrinkage calculated as 1-SD(η)/ω where η are the empirical Bayes estimates drawn from a normal distribution of mean 0 and standard deviation ω

[b] Subjects from Study A (water only) removed for shrinkage calculation

[c] ε–shrinkage calculated as 1-SD(IWRES) where IWRES are the individual weighted residuals