

TITLE:

Go beyond the limits of Genetic Algorithm in daily covariate selection practice

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Section 5: Additional information for the Remifentanil case study

Configuration file

model=RemifentanilModel.mod

continuous_covariates=AGE,HT,WT,BSA,LBM

categorical_covariates=SEX

[test_relations]

CL=AGE,HT,WT,BSA,LBM,SEX

V1=AGE,HT,WT,BSA,LBM,SEX

Q2=AGE,HT,WT,BSA,LBM,SEX

V2=AGE,HT,WT,BSA,LBM,SEX

Q3=AGE,HT,WT,BSA,LBM,SEX

V3=AGE,HT,WT,BSA,LBM,SEX

[valid_states]

continuous=1,2,3,4,5

categorical=1,2

Table S5.1: Covariate models selected by different runs of GA (First 5 runs)

Model parameter	Covariates				
	GA run#1	GA run#2	GA run#3	GA run#4	GA run#5
CL	AGE – exponential WT – exponential	AGE – exponential WT - exponential	AGE – exponential WT - exponential	AGE – exponential WT – exponential	AGE – exponential BSA - linear
V1	LBM - exponential	AGE – power WT – exponential SEX - linear	LBM - exponential	LBM - exponential	BSA - linear
Q2	AGE – exponential	AGE – exponential	AGE – exponential	AGE – exponential	AGE – exponential
V2	AGE – exponential SEX - linear	AGE – exponential SEX - linear	AGE – exponential SEX - linear	AGE – exponential SEX - linear	AGE – exponential SEX - linear

Q3	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick
V3	AGE – exponential HT – hockey stick SEX – linear	AGE – exponential SEX - linear	AGE - exponential SEX - linear	AGE – exponential HT – hockey stick	AGE - exponential SEX - linear

Table S5.2: Covariate models selected by different runs of GA (Last 5 runs)

Model parameter	Covariates				
	GA run#6	GA run#7	GA run#8	GA run#9	GA run#10
CL	AGE – exponential HT - exponential	AGE – exponential BSA - linear	AGE – exponential HT - exponential	AGE – power HT - exponential	AGE – exponential LBM - exponential
V1	LBM - exponential	BSA - linear	AGE – exponential LBM - exponential	LBM - exponential	LBM - exponential
Q2	AGE – exponential	AGE – exponential	AGE – power BSA - exponential	AGE – linear	AGE – exponential
V2	AGE – exponential SEX - linear	AGE – exponential SEX - linear	AGE – exponential BSA – linear LBM - exponential	AGE – power SEX - linear	AGE – exponential SEX - linear
Q3	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick	AGE – hockey stick
V3	AGE – exponential SEX – linear	AGE – exponential SEX - linear	AGE - exponential HT – hockey stick	AGE – exponential SEX - linear	AGE – exponential HT – hockey stick LBM - exponential

