Infants (VLBW), ELBW infants < 750g (BW750), g.a. 22–25 weeks (GA22–25). Analysis of birth cohorts of years 2003–2008 from the Baden-Württemberg registry. Inclusion criteria: GA < 33 weeks and BW < 1.500g. Variables considered: GA; BW; gender; BT; FiO$_{2}$max; FiO$_{2}$min; BE; malformation; death. Calculation of standard CRIB, CRIB-II and PREM with/without omission of selective items. Calculation of predictive value of scores/subscores for whole cohort VLBW, subgroups BW750 and GA22-25 using AUC of ROC curves. Wilcoxon/Mann-Whitney U-test, Fishers exact test, Pearson-Chi-Square test.

Results Total of 5,340 cases, 862 cases < 750g. AUC for VLBW/BW750: CRIB 0.89*/0.77, CRIB-II 0.86*/0.78, PREM 0.86*/0.77 (*p<0.01). For GA22-25 AUC of CRIB/PREM was 0.80/0.70. Lower AUC of all 3 modified scores without BT and/or BE, for instance PREM=0.82 (VLBW) and 0.73 (BW750). AUC of CRIB without influenceable parameters dropped for VLBW from 0.89 to 0.81, for BW750 from 0.77 to 0.66 (compared to modified CRIB-II=0.71, modified PREM=0.73).

Conclusions Standard CRIB is superior to standard CRIB-II, standard PREM, and all score modifications without influenceable items. No difference exists between the 3 scores when omitting influenceable parameters. For ELBW infants < 750g all standard scores are equally predictive, but without influenceable parameters AUC of CRIB is inferior to that of CRIB-II or PREM.