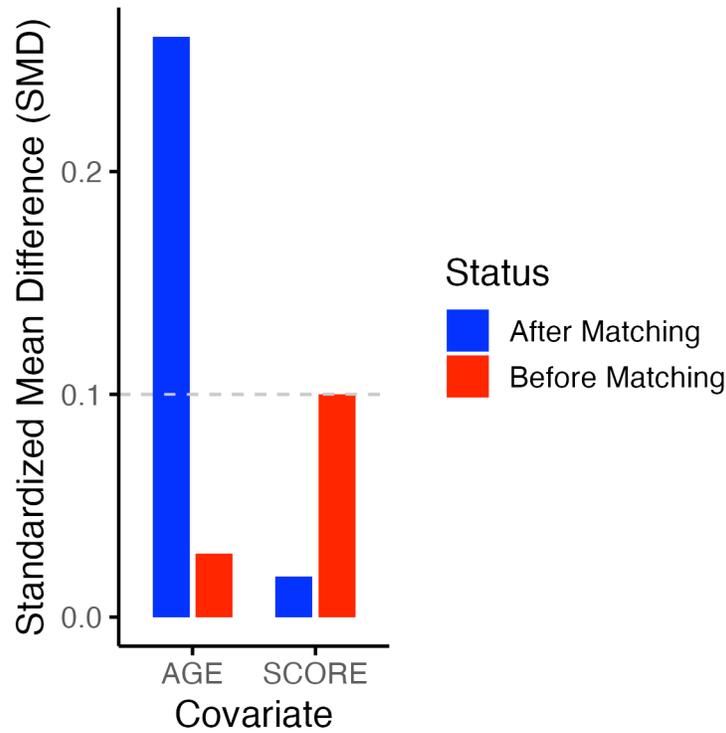
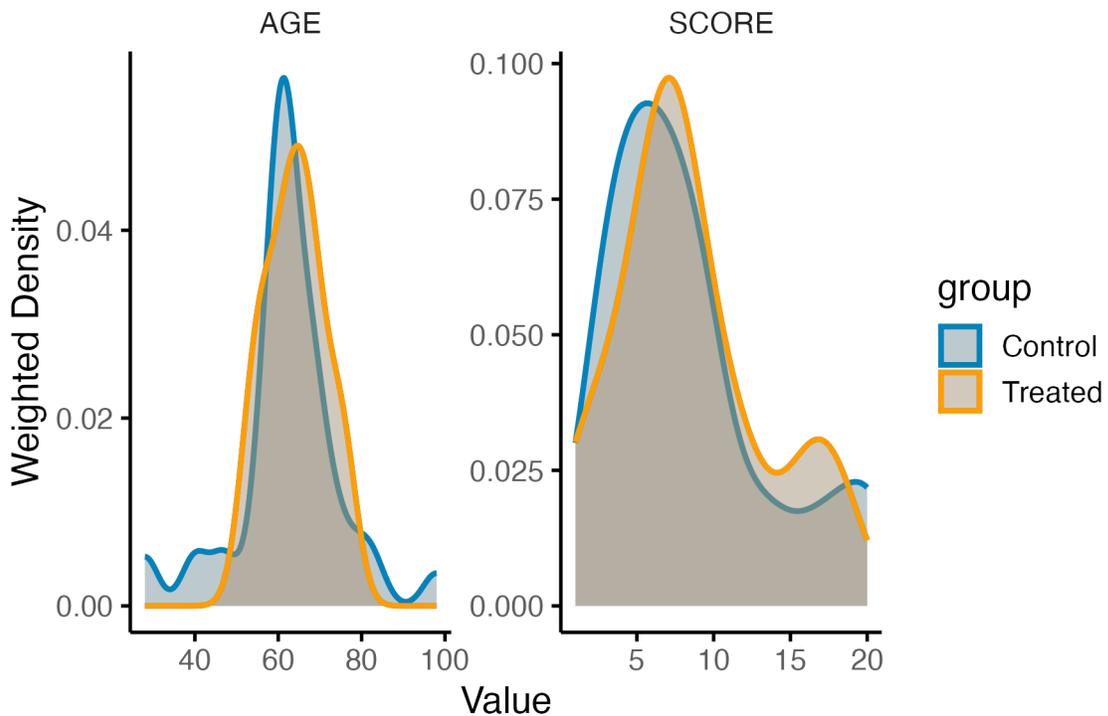


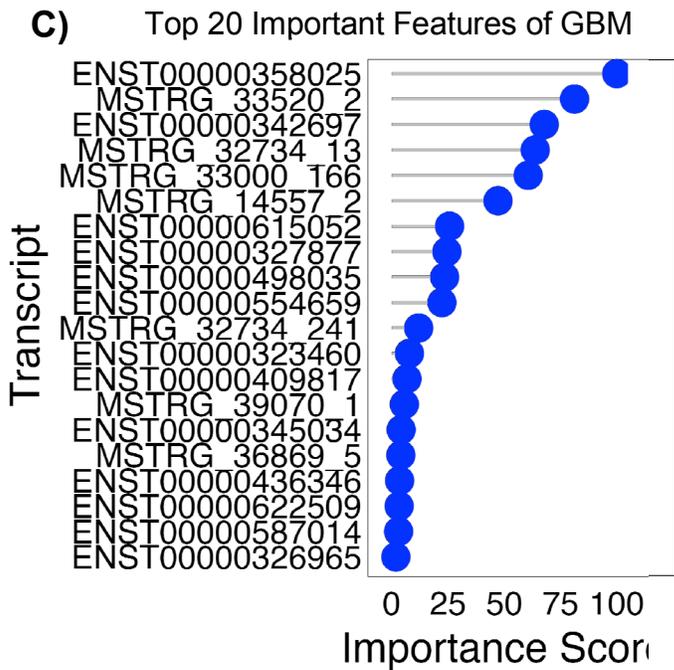
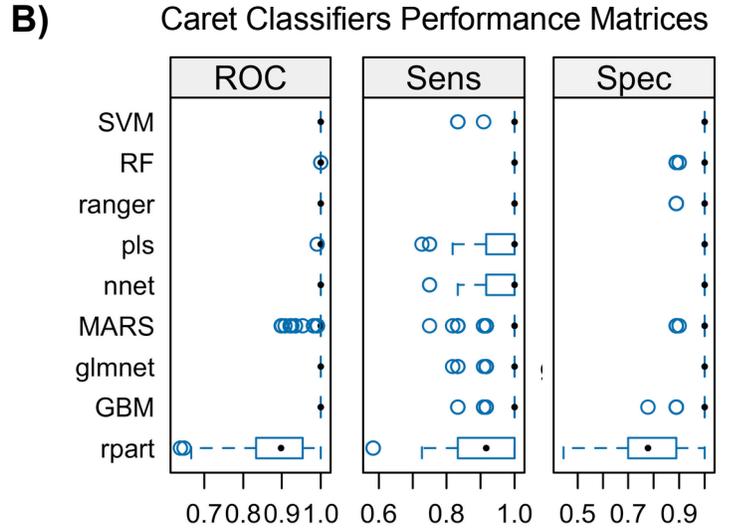
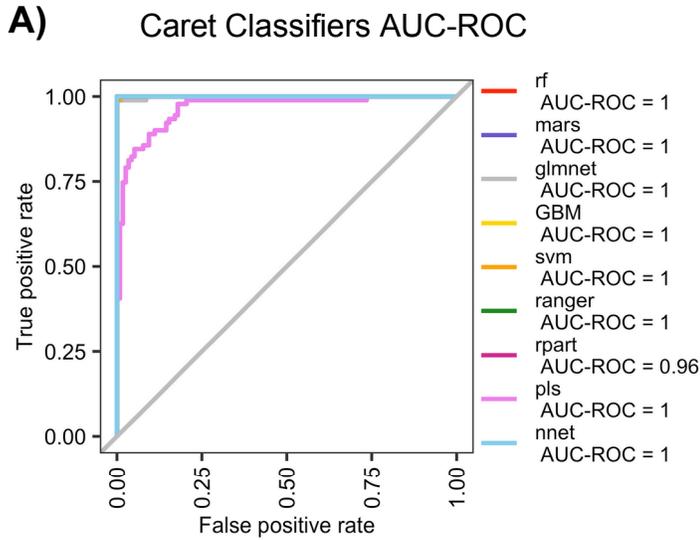
A) Covariate Balance Before and After Matching



B) Weighted Density for Matched Covariates



Suppl. Fig. 1. Assessment of covariate balance before and after full matching. (A) Standardized mean differences (SMDs) for age and baseline clinical severity score before and after full matching, demonstrating substantial reduction in imbalance following matching, with all covariates meeting accepted balance thresholds. **(B)** Weighted density distributions of matched covariates for treated and control groups, showing strong overlap and confirming adequate covariate balance without over-representation after application of matched-set weights.



Suppl. Fig. 2. Recursive Feature Elimination (RFE) performance to assess performance using only the most important features. (A) ROC curves for multiple models showing high performance (AUC, 0.96–1.00). (B) The analysis of the performance metrics on training models for 10 cross-validation trials. (C) The most important variables of the GBM model on Training dataset.