ASSESSMENT AND VALIDATION OF RISK PREDICTION MODELS

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In the process of developing risk prediction models, various steps of model building and model selection are involved. If this process is not adequately controlled serious overoptimism will arise leading to potentially erroneous conclusions. We will introduce suitable measures of prediction error for assessing the performance of a risk prediction model. Resampling methods will be used to adjust the estimates of prediction error and to detect overoptimism. The concepts will be illustrated by means of data from prognostic studies in oncology and other chronic diseases.