

# High risk classification across guidelines (NCCN vs. EAU): survival, QoL and functional outcomes

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## Introduction

Different international guideline organizations offer tools to categorize prostate cancer patients into risk groups. These risk groups have great implications on the further management and expected outcomes.

Although different guidelines have similar risk categories, they might not reflect similar patient profiles. We assessed the differences in survival, quality of life (QoL) and functional outcomes in high risk prostate cancer according to the NCCN and the EAU guidelines.

## Methods

A total of 9235 patients treated by RALP between 2009 and 2016 were included in the Be-RALP database, a large, prospective, multicentre database. QoL (QLQ-C30) and functional outcome questionnaires (Incontinence Modular Questionnaire–Urinary Incontinence, ICIQ and International Index of Erectile Function, IIEF-5) were completed on baseline, 1-, 3-, 12- and 24-months post-surgery.

Following both NCCN and EAU criteria, two groups were created in which a high and low-intermediate risk group were matched 1:1 using age, year of surgery, nerve sparing and centre size as matching criteria. This resulted in 1744 pairs following the NCCN criteria and 2332 pairs in the EAU group.

Uni- and Multivariable endpoint analysis investigated the effect on the Quality of Life and functional outcomes 24 months after surgery. Missing values were corrected using the full conditional specification multiple imputation (MI), with 10 imputations per missing value. Survival analysis was performed using Kaplan-Meier plots with log-rank tests and univariable Cox proportional hazard models.

## Results

When looking into the multivariable analysis, overall survival was lower in the NCCN group in comparison with the groups according to the EAU guidelines (HR of overall mortality 2.45 vs. 1.54).

QoL (Est 1.31, p=0.31 vs. Est 1.82, p=0.14), ICIQ (Est -0.04, p=0.84 vs. Est -0.19, p=0.48) and IIEF (Est 0.68, p=0.05 vs. Est 0.22, p=0.61) were similar across both guidelines.

## Conclusions

When investigating survival, quality of life and functional outcomes in both guidelines, similar findings in functional outcomes and a small difference in survival reflect the interchangeability of these guidelines.

## Figure 1

### High versus low-Intermediate risk prostate cancer across guidelines

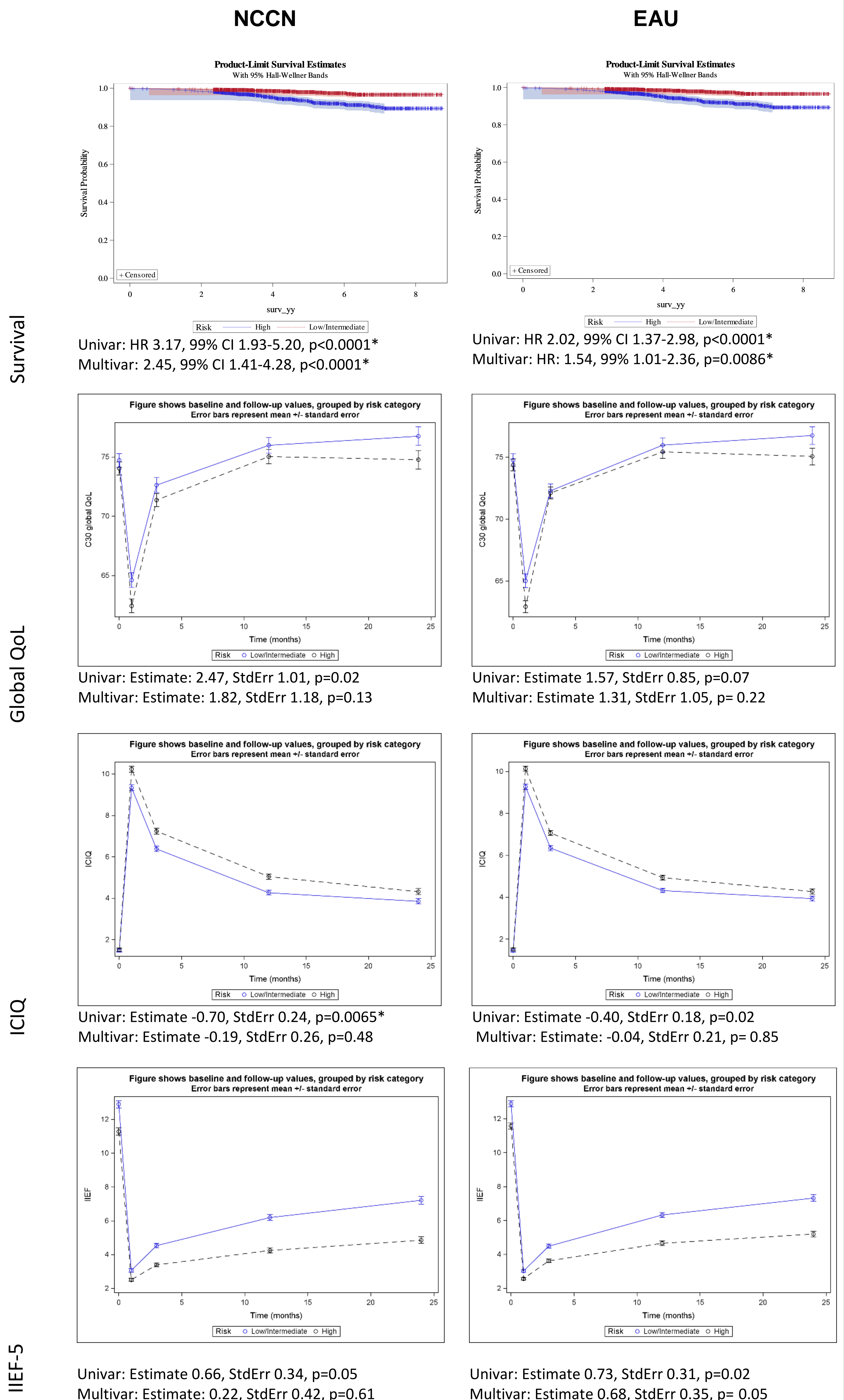


Table 1: comparison of different outcomes between guidelines. Included factors in multivariable cox regression: risk group, year of surgery, nerve sparing, pelvic lymphadenectomy (PLND), hospital size and age, in the multivariable models on QoL and functional outcomes: Age, year of surgery, cancer risk group, hospital volume, post-operative radiotherapy RT/hormonal treatment ADT, resection margins, nerve sparing and lymphadenectomy. Figures are a graphical presentation on the observed values over time. Uni- and multivariable analysis was performed on the endpoint. Abbreviations: Hazard Ratio (HR), 95% Confidence Interval (CI). Alpha= 0.01, \* indicates significant values