

## Supplementary Appendix

Supplement to: Lüders F, Kaier K, Kaleschke G, Gebauer K, Meyborg M, Malyar NM, Freisinger E, Baumgartner H, Reinecke H, Reinöhl J. Impact of chronic kidney disease on outcome of patients undergoing transcatheter aortic valve implantation. 2016.

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### ***Operations procedure and diagnoses codes***

The operation procedure codes (OPS) for TAVI (OPS codes: 5-35a.00, 5-35a.01) were used for identification of the patients. Patients were classified according to CKD: N18.1 as structural abnormalities or genetic trait point to kidney disease (CKD stage 1), N18.2 as normal or mild reduced renal function (CKD stage 2), N18.3 as moderate renal insufficiency (CKD stage 3), N18.4 as severe renal insufficiency (CKD stage 4) and N18.5 as end-stage renal failure (CKD stage 5). Additionally, data on comorbidities and in-hospital complications were assessed from specific secondary diagnoses. All main or additional diagnoses were coded according to the German Modification of the International Statistical Classification of Diseases and Related Health Problems 10<sup>th</sup> Revision (ICD-10-GM). Annual adaptations of the ICD-10-GM did not affect any of the analyzed diagnoses in this study. 'Previous cardiac surgery' contains history of previous coronary bypass or valve surgery. Bleeding was defined as requiring more than 5 units of red blood cells during hospital stay.

**Table S1:** Diagnosis and procedure codes used for this analysis

Codes	Description
OPS codes	
5-35a.00 5-35a.01	Transcatheter aortic valve replacement - transfemoral - transapical
5-377.0 et seqq. 8-800.c* et seqq. 8-854 until 8-857	Permanent pacemaker implantation Transfusion of red blood cell Dialysis
Diagnosis	
I35.0/I06.0 I35.2/I06.2 N18.*	Aortic valve stenosis Combined aortic valve diseases Chronic kidney disease
Secondary Diagnosis	
I25.11; I25.12; I25.13 I70.20 - I70.25; I70.8 I65.2 I50.1* Z95.1 Z95.1 – Z95.4 I25.2* I25.20/I25.21/I25.22	Coronary artery disease Peripheral vascular disease Carotid disease Left ventricular congestive heart failure Previous coronary artery bypass graft Previous cardiac surgery Previous myocardial infarction within 29 days upto 4 month/ within 4 month upto 1 year/ within more than 1 year
J44* I48.1* I27* I10* E10*- E14* I63*, I64	Chronic obstructive pulmonary disease Atrial fibrillation Pulmonary hypertension Arterial Hypertension Diabetes Stroke or cerebral infarction incl. occlusion and stenosis of cerebral and precerebral arteries, resulting in cerebral infarction
N17*	Acute kidney injury

**Table S2:** Outcome of AKI leading to the need for dialysis subdivided into the 5 CKD stages

	without CKD	CKD stage 1	CKD stage 2	CKD stage 3	CKD stage 4	CKD stage 5	p-Value
Patients, n	17527	193	1971	6755	1405	865	<b>&lt;0.001</b>
Patients with AKI, n (%)	693 (4.0)	9 (4.7)	99 (5.0)	549 (8.1)	201 (14.3)	59 (6.8)	<b>&lt;0.001</b>
AKI patients with documented need for dialysis, n (%)	333 (1.9)	4 (2.1)	37 (1.9)	256 (3.8)	116 (8.3)	55 (6.4)	<b>&lt;0.001</b>

AKI indicates acute kidney injury

### ***Logistic EuroSCORE***

We calculated the estimated logistic EuroSCORE (European System for Cardiac Operative Risk Evaluation) for each patient for estimation of the procedural risk for patients as described elsewhere in detail (2). The logistic EuroSCORE contains known risk factors for mortality from cardiac surgery. It is calculated by means of a logistic regression equation, ranges from 0 to 100%. A score > 20% indicates high surgical risk.

## References

1. National Kidney Foundation (2002). "K/DOQI clinical practice guidelines for chronic kidney disease". Retrieved 2008-06-9.
2. Reinöhl J, Kaier K, Reinecke H, et.al. Effect of Availability of Transcatheter Aortic-Valve Replacement on Clinical Practice. *N Engl J Med* 373(25): 2438-7, 2015