

Stage 4 and 5 chronic kidney disease is also an independent risk factor for foot ulceration and amputation J.J. van Netten, ; J. Otte, MD ; A.J. Woittiez, . ¹Department of surgery, Hospital Group Twente, Almelo, the Netherlands
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Objective: To investigate the risk of both CKD (chronic kidney disease) stage 4-5 and dialysis treatment for development of foot ulceration and lower limb amputation, in comparison to CKD stage 3, and with respect to other risk factors, such as diabetes mellitus, peripheral arterial disease, neuropathy and foot deformities. **Methods:** In this retrospective study, all individuals who visited our hospital between 2006 and 2012 because of CKD 3 to 5 or dialysis treatment were included. Three dates were collected to form groups: first date of CKD 3; first date of CKD 4-5; first date of dialysis treatment. Medical records were reviewed for dates of foot ulceration and lower limb amputation. The time from CKD 3, CKD 4-5 and dialysis treatment until development of foot ulceration and lower limb amputation was calculated for time analysis by Kaplan Meier curves and multivariate logistic regression models. Diabetes mellitus, peripheral arterial disease, neuropathy and foot deformities were included for potential confounding. **Results:** A total of 1338 time analyses were performed, divided into 539 analyses in the group CKD 3, 540 analyses in the group CKD 4-5 and 259 analyses in the group dialysis treatment. With CKD 3 as a reference, the hazard ratio for the development of foot ulceration in CKD 4-5 was 4.0 (95% CI 2.6-6.3), and in dialysis treatment 7.6 (95% CI 4.8-12.1). Hazard ratios for lower limb amputation were 9.5 (95% CI 2.1-43) and 15 (95% CI 3.3-71) respectively. This effect was irrespective of diabetes mellitus and other risk factors. **Conclusion:** Dialysis treatment is a well known risk factor for the development of foot ulceration and lower limb amputation, but we have shown that CKD 4-5 is also an independent risk factor, when compared to CKD3. This effect was irrespective of known risk factors such as diabetes mellitus. This indicates that preventative measures should already been taken when a patient presents with CKD stages 4 and 5.