

Kidney and heart diseases found to reduce survival rate after severe burns

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Despite enormous medical advances, severe burns are still potentially life-threatening injuries. Clinical scores, which take relevant parameters into account, are available to doctors as a decision-making aid for

therapeutic measures and to assess the probability of patient survival. Pre-existing diseases were not previously included in these models.

A research team from MedUni Vienna has now shown for the first time that [chronic kidney disease](#) and existing cardiovascular disease in particular have a negative impact on the prognosis of those affected. The study has just been [published](#) in the journal *Surgery*.

The study included data from 1,193 patients who were treated between 2000 and 2019 in the [intensive care unit](#) for severely burnt patients at the Department of Plastic, Reconstructive and Aesthetic Surgery at MedUni Vienna and University Hospital Vienna. In addition to the usual parameters, the influence of chronic pre-existing diseases was also included in the analysis for the first time.

As the investigations showed, chronic kidney disease has a particularly negative impact on the prognosis of patients: 48.6% of the patients with impaired [kidney function](#) did not survive their [severe burns](#). Of the patients with pre-existing [cardiovascular disease](#), around a third could not be saved.

Against the background of increasing survival rates for people with severe burns, the significance of the findings becomes clear.

"Fortunately, we were also able to show in our study that the prognosis of severely burned patients is improving from year to year due to the continuous development of treatment options," says study leader Annika Resch from MedUni Vienna's Department of Plastic, Reconstructive and Aesthetic Surgery, citing one of the key findings. Despite medical advances, [survival rates](#) are still below average for people with severe burns and pre-existing kidney or [heart disease](#).

Integrating findings into treatment

Burns are among the most common accidents worldwide and are estimated to be responsible for about 180,000 deaths each year. Extensive burns are serious injuries that require several weeks of treatment at specialized facilities and are also considered to be the main cause of chronic physical disability. So-called scores are used in everyday clinical practice for the assessment and treatment of burns.

The "Abbreviated Burn Severity Index" (ABSI) is a particularly frequently used model. "Future studies should show whether our findings can be integrated into this and other scores," says Annika Resch, summarizing the newly discovered possibility for further improving the (personalized) treatment of severely burned patients.

More information: Annika Resch et al, Chronic kidney disease and cardiovascular disease reduce survival rates after burn injury: A retrospective study over 20 years, *Surgery* (2023). [DOI: 10.1016/j.surg.2023.11.020](https://doi.org/10.1016/j.surg.2023.11.020)

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