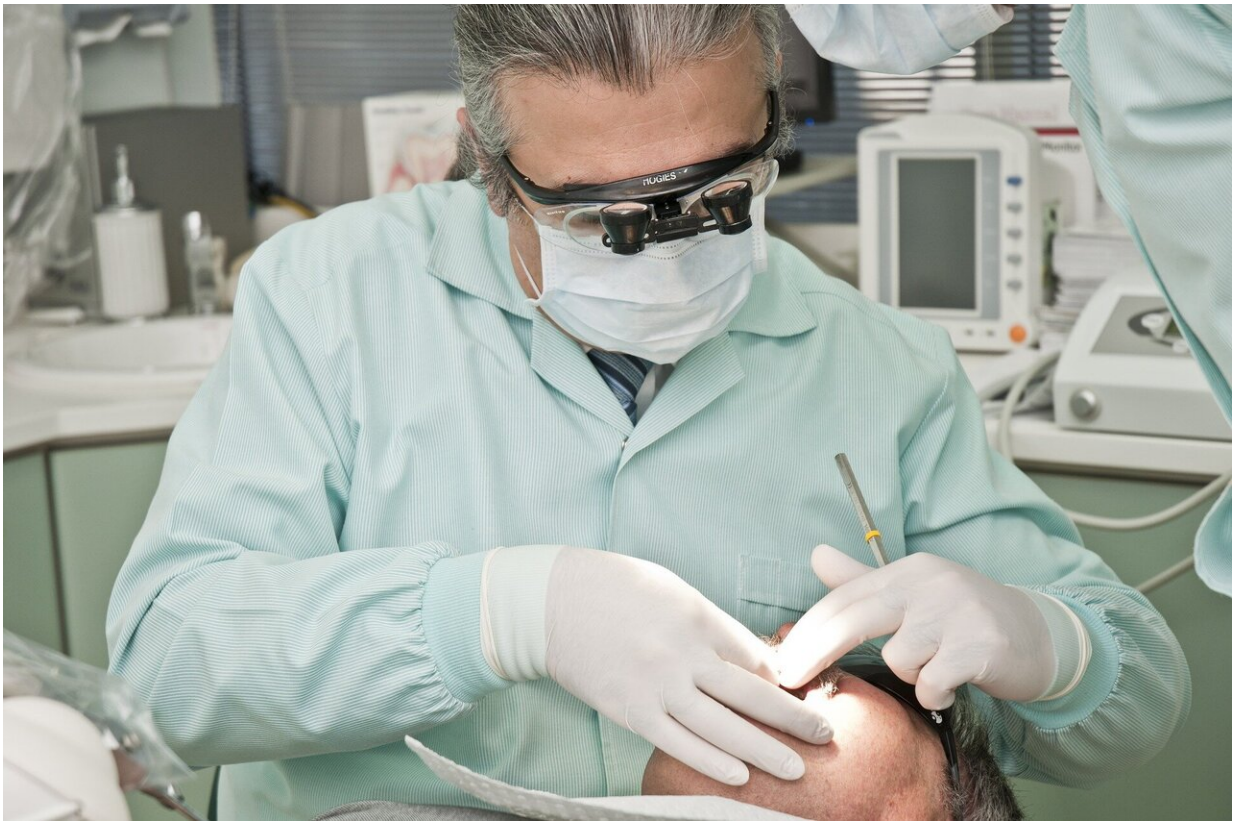


# Radical treatment of chronic oral infection before stem cell transplantation not necessary

January 3 2020, by Miia Soininen

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A recently published study indicates that oral infections seem to have no association with the risk of stem cell transplantation patients dying of or getting a serious infection within six months of the procedure.

A study collaboratively conducted by the University of Helsinki, the Helsinki University Hospital, the University of Basel and the University Hospital Basel investigated whether oral infections are associated with the mortality rate and infectious complications post-[stem cell transplantation](#).

Haematopoietic stem cell transplantation is used to treat cancers as well as severe blood and autoimmune diseases. Due to the long period of recovery for the immune system after a stem cell transplantation procedure, patients have a heightened risk of [infection](#).

The study, published in the *PLOS ONE* journal, involved patients treated at the University Hospital Basel, of whom 341 had received an allogeneic stem cell transplantation and 125 an autologous stem cell transplantation. The procedures were carried out between 2008 and 2016.

Before carrying out the transplantation procedure, all patients underwent a clinical and radiological dental examination to identify any potential foci of infection as well as the number of missing and filled teeth.

A total of 51 stem cell [transplant](#) patients died within six months of the procedure. The foci of infection, the number of missing or filled teeth and the cases of periodontitis identified in the examinations completed before the transplantation were not associated with the survival of patients.

Furthermore, the oral foci of infection and oral infections were not associated with infections requiring hospitalisation or bacteraemia identified by blood culture occurring within six months of the transplantation.

"Contrary to our assumptions, untreated oral infections had no

connection with post-stem cell transplantation survival during the six-month follow-up period. Another surprise was that they had no link with any serious infectious complications occurring during the follow-up period," Professor Tuomas Waltimo, who headed the study, sums up.

## **Dental infections always require treatment—Cooperation between physicians and dentists essential**

Most likely, the long-term and broad-spectrum antimicrobial therapy administered during treatment was, in this study, able to prevent the spread of chronic infections of dental origin. However, Waltimo stresses that the antibiotic resistance level of oral microbes must be monitored, and dental infections should always be treated as soon as possible, either conservatively or surgically.

"Even though the cause of dental infections must always be eliminated, our study demonstrates that teeth need not be extracted just before a stem cell transplantation procedure due to chronic but asymptomatic dental infections. However, the patient's health permitting, and if the wound has enough time to heal before chemotherapy, the radical treatment of such infections is justified. Other than that, conservative, non-radical treatment that eliminates the infection carried out by a dentist familiar with the case appears to be the lowest-risk option in terms of infectious and bleeding complications."

Waltimo points out that the findings cannot be applied to any other patient groups, especially not to patients suffering from cancer in the region of the head and neck, or the treatment of patients with a heart valve or a prosthetic joint. In such cases, the treatment of the oral foci of infections in good time is always well grounded.

"Based on our results, it seems that radical and extensive procedures to treat [oral infections](#) are not necessary before stem cell transplantations. Instead, such treatment can be postponed until after the transplantation," notes Matti Mauramo, LicMed and DDM, a physician specialising in pathology and the principal author of the article.

For the sake of the patient's quality of life and treatment costs, dental infections should be prevented or treated as soon as possible. Antibiotic therapy given when immune defences are impaired appears to make it possible to delay dental treatment by as much as several months after a stem cell transplantation procedure.

The researchers emphasise that the significance of cooperation between physicians and dentists must not be underestimated, neither in terms of the patient's quality of life nor in terms of infectious complications.

**More information:** Matti Mauramo et al, Dissociations of oral foci of infections with infectious complications and survival after haematopoietic stem cell transplantation, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0225099](https://doi.org/10.1371/journal.pone.0225099)

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