

## Survey "ceramic dental implants" The results

[www.esci-online.com](http://www.esci-online.com)

# Ceramic dental implants in clinical use

## Evaluation of the ESCI scientific survey

Dr Jens Tartsch, Switzerland

### Introduction

In modern dental implantology, ceramic implants offer a supplement to the treatment spectrum with titanium implants. Increasing interest in ceramic implants owing to their biological advantages can be observed not only on the part of health-conscious patients but also in the dental profession. Promising short- and medium-term data on the successful use of ceramic implants is available. Nevertheless, the topic of ceramic implants is still controversial in part because of the lack of long-term data.

Even systematic reviews do not provide this, referring mainly to specific experiences with individual systems. Comprehensive findings on the general practical use of ceramic implants and experience from daily dental practice are still lacking.

To this end, the European Society for Ceramic Implantology (ESCI) conducted a global survey aiming to gain deeper insight into the general daily handling of ceramic implants and to answer questions concerning ceramic implantology. This survey provides valuable information for the further development of ceramic implants and makes an important contribution to their reliable use—ultimately for the safety of our patients.

### Method

The survey questionnaire was designed by the ESCI scientific advisory board in German and English and was addressed to users of ceramic implants, users of titanium implants and dental technicians. The results of the survey were evaluated by the ESCI. The survey was not conducted for commercial purposes, and no financial resources were provided by partners or other third parties. The questionnaire was implemented in an online survey tool and sent as an online link via e-mail to the members of the ESCI, among others, published on the ESCI's website, published via print media of the dental press and distributed via various other channels of the survey partners from April to November 2021. This included social media channels of and newsletters from collaborating professional societies and the ESCI's company partners. The ESCI would like to thank all supporters for their efforts. These are the Austrian Society of Implantology (ÖGI), European Association of Dental Implantologists (BDIZ EDI), PEERS, the German Society for Environmental Dentistry (DEGUZ), the "Zahngipfel", as well as the companies Institut Straumann AG, CAMLOG Biotechnologies GmbH, Nobel Biocare Services AG, Dentalpoint AG, Z-Systems GmbH, COHO Biomedical Technology Co., LTD., CeramTec GmbH, Zircon Medical Management AG and the Dental Campus Association, as well as numerous media partners.

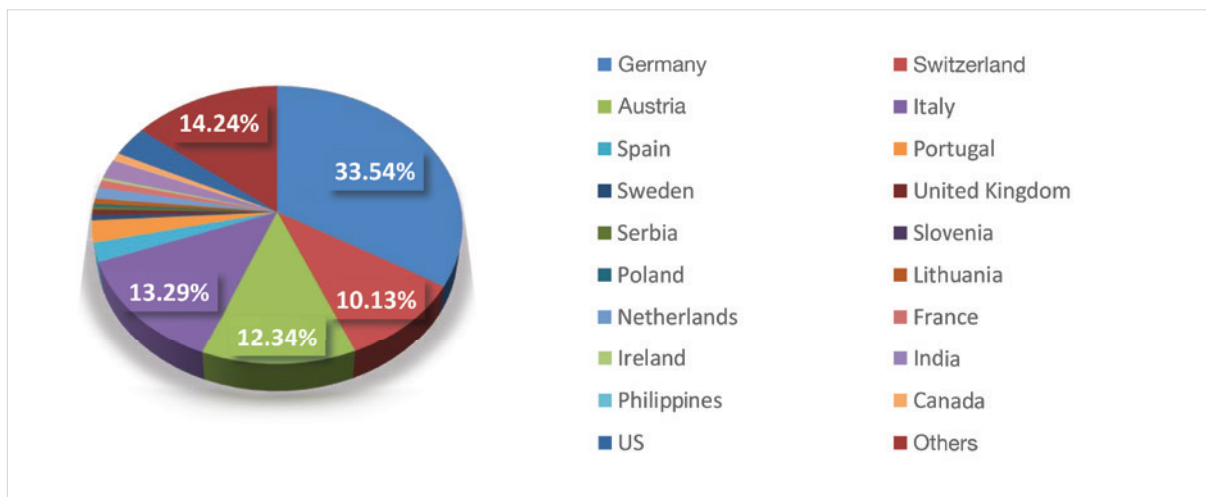


Fig. 1: Distribution of responses from participants in 45 countries.

The survey was completed by 316 respondents from all over the world (Fig. 1), demonstrating the importance of the topic of ceramic implants. The size of this sample allowed the ESCI to draw meaningful conclusions.

The questionnaire consisted of 42 questions in total, first covering questions on general demographic information and then posing questions in three separate sections for each of the target groups: (1) general dentists, oral surgeons and maxillofacial surgeons with experience in ceramic implantology; (2) general dentists, oral surgeons and maxillofacial surgeons without experience in ceramic implantology; and (3) dental technicians. It also posed questions on the further development and establishment of ceramic implants to all three groups.

## Discussion

The comparison of the responses given by participants with practical experience in ceramic implantology to those with only theoretical knowledge of the subject is quite interesting. The assessments coincide in some areas but diverge in others.

The possible advantages of zirconia in terms of biocompatibility and a low tendency to inflammation were confirmed and are in line with the ESCI's view. In particular, a significantly lower tendency to peri-implantitis seems to be observed in private practice. This should be confirmed by corresponding clinical studies. The fear of the past regarding stability could at least be relativised for the newer systems, since fractures were not in the foreground in the survey findings on the reasons for loss.

The potential for osseointegration was rated equally for both zirconia and titanium. Loss during the healing phase was reported proportionally more often for zirconia, giving cause for further evaluation. Since various factors, such as overloading, incorrect loading, surface design

and bone degeneration caused by overheating, can play a role in early loss, the causes of loss need to be differentiated in order to address these causes and reduce failures.

All responses indicated a clear tendency towards two-part systems, which allow a broader range of indications and offer more flexibility. There is a need for solutions which simplify the application compared with titanium implants. The full official statement on two-piece ceramic implants can be read on the ESCI website.

The clearest requirement, however, runs like a thread through the survey: users of ceramic implants should record their experiences and make them accessible to all interested parties. There should be broad, scientifically sound and objective information on the subject. The data on ceramic implants must be improved and long-term evidence-based studies initiated. Then ceramic implants will increasingly establish themselves for a broad user group in the interest of our patients. Implementing this requirement is a clear call from the survey to all manufacturers and research institutes—and a core topic of the ESCI.

For a detailed overview of all questions and results, please visit [www.esci-online.com](http://www.esci-online.com) or request the full data summary from the ESCI.

## contact

### European Society for Ceramic Implantology

Dr Jens Tartsch  
 Kilchberg, Switzerland  
 +41 44 7154877  
[info@esci-online.com](mailto:info@esci-online.com)  
[www.esci-online.com](http://www.esci-online.com)