

Ask Dr. Christensen

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In this monthly feature, Dr. Gordon Christensen addresses the most frequently asked questions from Dental Economics® readers. If you would like to submit a question to Dr. Christensen, please send an e-mail to info@pccdental.com.

Question ...

I have noticed with interest the growing popularity of the so-called "mini" implants, some of which have diameters about half the size of standard-sized implants. Are these implants successful?

Answer from Dr. Christensen ...

I have used mini implants for both provisional and final purposes for several years. In both situations, they have been highly successful. Implant manufacturers report their most popular standard implant diameter is about 3.75 mm. After recognizing the success of these standard-size implants, I was skeptical about the use of narrow-diameter implants that were less than 1.8 mm in diameter. Would they be strong enough? Would they integrate with bone as adequately as the larger implants? Could they be used in both fixed and removable prosthesis situations?

Some implant "authorities" condemned the mini implant concept from its inception, which made me even more anxious. Nevertheless, I started using these implants several years ago. Remarkably, the mini implant not only worked, but the technique was far less invasive and easier on me and the patients than the standard root-form implant procedure.

I will state my observations of the mini implant concept, and you can make your own conclusions, based on the needs of patients in your practice.

- *Amount of bone present. If a potential implant patient does not have approximately 6 mm of bone in a facial-lingual dimension and 10 mm of bone in a crestal-apical dimension, placement of a standard root-form implant is not feasible without grafting. I have successfully placed many mini implants in bone that were only 3 mm wide in a facial-lingual dimension and at least 10 mm wide in a crestal-apical direction. This saves the patient money, trauma, time, and frustration.*

- *Financial resources of the patient. Today, one typical root-form implant placed in the United States costs a patient about \$1,500 without the abutment. The cost of mini implants for practitioners is a fraction of the cost of standard implants. Therefore, most practitioners can*

afford to place at least two and maybe three mini implants for a fee similar to placing one standard-size implant.

• Invasiveness of the clinical procedure. If adequate bone is present, many mini implants can be placed without reflecting the soft tissue, making a minimally invasive procedure.

• Immediate loading. The manufacturers of mini implants usually suggest immediate implant-loading with which I have had significant success. As an example, patients with poorly retentive removable or complete dentures often eat a normal meal on the day of mini implant placement. They do so with their previously made dentures now stabilized with mini implants. Of course, bone integration still requires several months during which time patients can eat in a normal manner.

In summary, do you have patients who have too little bone for standard implants, inadequate financial resources, fear of the typical implant surgery procedure, and the desire to eat easily immediately after implant placement? Of course you do! With proper patient-informed consent about the minimal long-term research on mini implants, and the relatively recent introduction of the mini implant concept, what other choices do you have for many of your patients?

Two of our video productions are available for further information. V2300, "Making Decisions About the Successful Use of Implants," shows the clinical situations in which standard root-form implants can be used; and C900A, "The Mini Implant for General Practitioners," shows the placement of a mini implant in a simple case.

Question ...

When can "mini" implants be used, and when should conventional 3-4 mm diameter implants be used?

Answer from Dr. Christensen ...

After several years of using mini implants for long-term service, I have the following observations for your consideration:

→ Standard size root-form implants are well proven, and in my opinion, should be used whenever possible. When minimal bone is present in a facial-lingual dimension (less than 6 mm), 10 or more millimeters of bone is present in a crestal-apical dimension, and grafting is not feasible, then mini implants should be considered.

→ As with all procedures, patient-informed consent is mandatory with this concept. Patients should be advised that these implants are being used throughout the world, but they have not been subjected to long-term research such as that done on standard-sized implants. Patients should be informed that, in the event of a failure, removal of the mini implant is simple and replacement is not difficult.

→ *In the event of minimal bone presence - such as 3 or 4 mm in a facial-lingual dimension - reflection of soft tissue is highly desirable to afford optimum vision and adequate mini implant placement.*

→ *When using mini implants in situations such as under a complete denture, I suggest that two mini implants should be used where one standard-sized conventional implant would be considered adequate. As an example, four mini implants - two placed in or near each canine area under a complete denture - should be placed instead of two standard implants, one in each canine area. Placement of four mini implants minimizes the possibility of implant rotation as they are integrating into the bone.*

→ *As necessary with all implants, patients should be advised to practice excellent oral hygiene.*

In summary, when adequate bone is not present in a facial-lingual dimension and adequate bone is present in a crestal-apical dimension, and when patients do not want to have bone grafting, then mini implants should be considered. Adequate patient-informed consent should be delivered.

Dr. Christensen is a practicing prosthodontist in Provo, Utah. He is the founder and director of Practical Clinical Courses, an international continuing-education organization for dental professionals initiated in 1981. Dr. Christensen is a co-founder (with his wife, Rella) and senior consultant of Clinical Research Associates which, since 1976, has conducted research in all areas of dentistry and publishes its findings to the dental profession in the well-known "CRA Newsletter." He is an adjunct professor at Brigham Young University and the University of Utah. Dr. Christensen has educational videos and hands-on courses on the above topics available through Practical Clinical Courses. Call (800) 223-6569 or (801) 226-6569.