

# INCISAL EDGE



2008 Volume IV

The quarterly newsletter of  
D&S Dental Laboratory, Inc.

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## EMBRACING THE NEW TECHNOLOGY

By Dick Pilsner

I have been in the dental laboratory industry for over 45 years and in the infancy of my career I was processing vulcanite dentures, fabricating from gold bands what they called “tin can crowns,” using air fired, not vacuum fired porcelain for porcelain to metal crowns, used only high gold content alloys, and made my own wax sheets from a mixture of paraffin, bees wax, and resin. Thank goodness things have changed over the past 45 plus years. With the advancement of CAD-CAM technology as applied in dentistry over the last few years we have seen vast changes in the laboratory and now the dental office.

Digital dentistry technology is changing the way our laboratory manufactures crowns, bridges, partial frameworks, orthodontic appliances, and implants. In our laboratory at present we have several scanners, milling machines that mill zirconia, ceramic crowns, and implant components as well as Maryland bridges from zirconia and metal. We have two rapid proto-type printers that print wax/resin copings, bridge frameworks, full cast crowns, and partial denture frameworks. No more hand waxing. We also have 10 of our dentist clients using intra-oral scanners to “wire” impressions to our laboratory digitally to produce for them not just one product but several.

We are embracing the new digital age of dentistry and we are continually asked by our peers—Why? Why are we investing in the equipment? First of all, we have found that the quality in fit and accuracy has improved. When we design the case on our computers we are able to see in 3-D the finished product before we start. Production is another asset because the time it takes to manufacture a crown, partial denture or any other appliance is greatly reduced, and that turn around time from the laboratory to the dental office will be a huge service

benefit to the patient. These digital machines are producing what our laboratory needs overnight. Cost is another benefit and that benefit enables us to pass the savings on to our dental clients.



Our laboratory industry predicts that in five years there will only be about 50–60% of the present laboratories in the U.S. that will still be in business. I

remember when they called the 1960’s the “Golden Age of Dentistry.” I believe that the “Golden Age of Dentistry” is about to come in the very near future. What is going on now in the laboratory and the dental office is the “tipping point” of the future for dentistry. Will our laboratory be prepared? In order to excel, we will have to be aware of what changes are taking place and embrace them so that we can logically and economically manage the transition from what we do today to full digital production in the future.

There is always talk about change and it’s value. However, there is something very valuable that will never be replaced and that is the relationship that a dentist has with her or his laboratory. It will always be about people and not about machines when it comes to relationships. We will use machines to accomplish our objectives, but the value and trust and relationship will always remain the foundation of our laboratory. Here too our laboratory must prepare and continually improve itself for our future.

*“In order to excel, we will have to be aware of what changes are taking place and embrace them...”*

# PRODUCT PROFILE

Product-Captek  
Manufacturer-Precious  
Chemicals, Inc.

## DESCRIPTION

- High Nobel Coping/Substruction Fused to Porcelain
- 88% Gold (yellow)
- Capillary Technology-High Strength Platinum/ Palladium/Gold Alloy

## DOCTORS BENEFIT

- Strength
- Shade Color
- Marginal Fit
- High Nobel Internal Gold

## PATIENTS BENEFIT

- Periodontal Health-90% Less Plaque Accumulation
- Beauty, No dark margins
- Warm gold color
- Excellent light dispersion through porcelain

## INDICATIONS

- Anterior or posterior PFM crowns & bridges for periodontal patient's health

## CONTRA INDICATIONS

- None

## PREPARATION

- Any style of margin design
- Occlusal clearance 1.5 mm
- Standard retention and resistance form
- For best esthetics-equigingival to subgingival margin for a margin where Captek metal is extended to edge
- Subgingival acceptable for ceramic margin

## DAYS IN LAB

- 8 days

## SEATING INSTRUCTIONS

- Any traditional cement-do not overfill
- If bonding-abrade internal aspect of crown or bridge with light aluminum oxide (50 micron) at 20-40 lbs pressure.

***D&S Dental Laboratory Inc. is a Captek certified laboratory.***

# D&S DENTAL LABORATORY SUCCESSFULLY COMPLETES CAPTEK ADVANCED CERTIFICATION PROGRAM

D&S Dental Lab is officially certified as having in-depth knowledge in the fabrication process for Captek restorations, including the use of the advanced Nano-particle based Captek materials and application such as long span bridges and implant restorations.

Captek Advanced Certificated Laboratories are trained to maximize the full potential of Captek "Composite Metal Technology."

These areas include:

- Porcelain Esthetics
- Clinical Knowledge Preparation, Cementation, Design
- Plaque Resistance
- Precise Fits
- Metal Bands & Metal Linguals
- Proper Frame Design for Porcelain, Implant Restorations and Long Span Bridgework
- Cost Control

Captek has become one of our most popular high noble gold color products primarily because of fit, color and cost. Call Steve Daggett C.D.T., for any questions and information about Captek.

# ZIRCONIA CUTTING DIAMONDS FOR CROWN REMOVAL



This was the title of an article in Dr. Gordon Christensen's Clinicians Report in the August 2008 issue. As with metal ceramic restorations, occasionally zirconia-based restorations will need to be removed for various clinical reasons or an access drilled through the restoration to perform an endodontic procedure.

Zirconia has very different mechanical and thermal characteristics than metal. Burs that cut various metals will not cut zirconia as efficiently. Diamond

burs are the choice for cutting through zirconia. In the article from Christiansen's report, it lists 14 different manufacture's of diamond burs & disks. Our recommendation is a medium course grit bur and of course the use of high water spray.

You do not have to pay more than two to three dollars for each bur or disk to accomplish the objective of removing a restoration. If you would like a list of companies that provide diamond burs and disks please contact our laboratory.

# FIXED PROSTHODONTICS—TOP TEN WAYS A DENTIST CAN HELP THE DENTAL LABORATORY TECHNICIAN PRODUCE A QUALITY RESTORATION

1. Provide a complete and comprehensive treatment plan, even if you only plan to accomplish a small portion of it at this time. This allows the technician to foresee where you and the patient are headed and by being part of the team they may be able to forecast upcoming problems or concerns.
2. Send pre-operative information, such as study models and photos of the patient. Also list any expectations that the patient may have esthetically.
3. Properly prepare the tooth or teeth. The dental technician needs a clear margin design and adequate reduction. For a porcelain-fused-to-metal restoration a minimum of .5 mm is needed for the metal coping and 1 to 1.5 mm is necessary for the porcelain to prevent fracturing. If this occlusal reduction is not possible, please state if you would then prefer a metal island, reduction of the opposing tooth, or a call from the technician.
4. Before impressing, achieve total hemostasis. Pack a gingival retraction cord for the appropriate length of time. If hemostasis can not be accomplished, it may be necessary to temporize the prepared tooth and have the patient return another day for the final impression. Remember, quality always supercedes convenience.
5. Take an accurate impression. For multiple units, a full arch impression is preferred. For single units, a quad tray is acceptable, but be wary of flimsy triple trays. If there is inadequate lateral support, distortion will occur.
6. Take a passive bite registration. Most patients find it difficult to close an anesthetized jaw into a true centric bite when encountering the bulkiness of a triple tray loaded with impression material on both sides. A separate bite registration using a small amount of material will yield better results.
7. Place a well fitting temporary restoration. Proximal contacts should be closed, gingival margins contoured and tight-fitting, and proper occlusion verified. A poor fitting temporary will contribute to insertion problems at the cement appointment.
8. Shade, shade, shade. Yes, take the shade three times. Once is for the hue (color), twice, for the chroma (intensity of color), and finally, for the value (greyness). Include any additional information such as increased translucency at the incisal, craze lines, or area of hypoplasia. Diagrams and drawings are a great help. Also, remember to choose the shade before you prepare the tooth. Air from the handpiece will dehydrate sources and allow the patient to approve of the selection.
9. Return the comment cards. The dental technician needs to know what worked as well as what may need to be modified. Did it need little or no adjustments to seat? Was the patient satisfied with the shade?
10. Lastly and most importantly, TALK with your technician. Communication is the key to unlocking many doors. Communication is the key to success.

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## Q & A - IMPLANTS

By Dick Pilsner

Steve Daggett C.D.T. and Joel Thanos are two technicians in our Waunakee Laboratory that design and produce all the implant cases for D&S. I recently spent time with the two of them for an update on our laboratory's progress in this area. Here are a few of the questions I asked them.

*The two of you do a number of types of implants in this laboratory. What are a few of them?*

**Joel-** We use a number of implants, namely Nobel Biocare, Lifecore, Biomet, Zimmer, Straumann and Astra Tech. We also use other manufacturer implants, but the ones I named are the most popular in this area.

*Is there one type of implant or manufacturer's implant that is more popular in use?*

**Steve-** When we first started doing implants in this laboratory, most were external. Now about everything is internal retention (hex) implants. As far as one manufacturer's being more popular, not really.

*Have you seen the use of implants in the last year increase or remain about the same as a year ago?*

**Joel-** Definitely an increase. We now receive about double the number of implant work that we had mid 2007. I see 5 to 6 new cases on a daily basis.

*What is the most often asked question on implants you are asked by our dental clients?*

**Steve-** Procedural questions definitely; the doctors want to know the steps and how they collaborate with the laboratory in those steps. They also ask "can I get an all ceramic abutment for this case?"

*What are your thoughts on all ceramic components?*

**Steve-** All ceramic components are very viable and esthetic and there are few contra indications for them. However you do have to consider the depth of the implant, the position of the implant and the manufacture's availability.

*Q & A continued on back*



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# D&S MAINTAINS THE HIGHEST STANDARDS

We believe our standards  
are reference points  
by which others might  
judge their own success.  
Our efforts establishing  
these respected benchmarks  
have made us leaders  
in our field.

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*Q & A continued from page 3*

*What implant components are you able to mill in this laboratory?*

**Joel-** Right now we mill about 90%. In the next 4 to 5 months we will be able to mill 100%.

*What considerations do you look for when designing an implant case?*

**Steve-** Number one is the long axis of the implant, especially for multiples. Next is the depth of the implant. After that we can work past everything else.

*Is there any one type of impression material recommended over another?*

**Joel-** Not really. Polyvinyl's are the most popular.

*How does a client of this laboratory receive information about implants from this laboratory?*

**Steve-** Call one of us here at the Waunakee laboratory. Information can also be found in our newsletter, and they can attend one of our workshops we present here at the laboratory in the evening or an all day seminar at our classroom location. We also have doctors visit our laboratory where we can sit down and consult as a team on any implant case.

*What workshops would you like to see our laboratory present in the future?*

**Joel-** What is always well received is a workshop on restorative options and overcoming treatment obstacles. Sometimes our doctor's advisory board gives us suggestions. We of course are open to any suggestions to make implant education available.

I want to thank Joel and Steve for their time to help put together this article and if there are any questions one may have please do not hesitate to call either one of them at 1-800-236-3859 or 608-849-5343.



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