Lava™
Chairside Oral Scanner C.O.S.

Precise Restorations.
Improved Productivity.
Today’s impression challenges.
According to a recent survey\(^2\) of dental labs in the United States, the biggest challenge labs face with incoming work from dentists is “inadequate impressions.” The fact is, even the most experienced practitioner using the best materials can encounter difficulties making impressions: delamination, facial-lingual pulls, tearing at the margin, tray-tooth contact and discrepancies with stone models. The Lava C.O.S. essentially eliminates these common problems with traditional impressions.

A more productive fit.
Dentists across the U.S. are already experiencing the benefits of precise digital impressions with the Lava C.O.S. 93% of these users indicate that Lava C.O.S. crowns fit better than those made with traditional impression materials. And precise-fitting restorations mean no more time-consuming adjustments to aggravate your patients and upset your schedule.

Getting more done will become a new way of life with the Lava C.O.S. Users have experienced a 41% reduction in seating times for single-unit crowns and a remake rate up to 80% below the industry average.\(^3\) Together these productivity improvements alone can save you more than $100 per crown.\(^4\)

Welcome to the future in motion.

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1 Valid for new Lava C.O.S. doctors until one year after certification date. Fit Guarantee covers any restoration sent back to the lab because of marginal fit. See contract for full details.
2 Source: 2005 LMT article
3 Source: 3M ESPE internal data comparing traditional vs. digital impressions
4 Assumptions:
  a) Dentist average production rate of $400/hour.
  b) 20 single-unit crowns per month.
  c) Remake rate of 0.5% for Lava C.O.S. digital impressions vs. 3% for traditional impressions.
  d) Seating time of 15 minutes for Lava C.O.S. vs. 30 minutes for traditional impressions.
It’s all in the revolutionary details.

**Unprecedented Speed.**
Revolutionary 3D-in-Motion technology enables the Lava C.O.S. wand to continuously capture approximately 20 3D data sets per second—the equivalent of 24 million data points per arch.

**Maneuverability.**
The Lava C.O.S. wand weighs just 14 ounces and the tip is just 13.2 millimeters wide for easy movement and clearance throughout the mouth.

**Instantaneous Feedback.**
Real-time video images provide users with instantaneous feedback and the ability to assess preparation and tissue management in ways never before possible.
Loyalty and Referrals.
The intuitive, user-friendly touch screen monitor allows immediate interactive experiences with your patients, enhancing customer loyalty and stimulating positive referrals.

Flexibility.
The Lava C.O.S. is the entry point to both traditional (PFM) and sophisticated CAD/CAM restorations. And you can work directly with your existing lab to help grow that valuable relationship as well.

Confidence.
Both dentists and labs have the same advanced tools to check the preparation and margin, including video review, 2D enhancement or 3D stereographic review. Labs can confidently mark the margin knowing they are seeing exactly the same images viewed by the dentist.
State of the art.

The Lava™ Chairside Oral Scanner C.O.S. is the result of proprietary and innovative technology that consists of advanced hardware design, high-speed image processing algorithms, and robust, real-time modeling software. It is likely the most sophisticated optical system you’ll ever hold in your hands.

**CAPTURE** Extraordinary invention in a compact, lightweight design.

The Lava C.O.S. wand contains a highly complex optical system comprised of multiple lenses and blue LED cells. The system captures massive amounts of visual images in just seconds. Despite housing all of this technology, the wand weighs just 14 ounces and the wand tip is only 13.2 millimeters wide, maximizing maneuverability inside the mouth.

At just 44" H x 20" W x 28" D, the entire Lava C.O.S. unit fits neatly in a typical dental office and is easy to navigate between different operatories.

**PROCESS** High-speed image processing algorithms.

The Lava C.O.S. introduces an entirely new method of capturing three-dimensional data. 3D-in-Motion technology captures 3D data in a video sequence and models it in real time. In fact, the Lava C.O.S. can capture approximately 20 3D data sets per second, or close to 2,400 data sets per arch, for an incredibly accurate, high-speed scan. Point-and-click technology, which has been around for 20 years, relies on the warping of a laser or light pattern on an object to determine 3D data and uses individual “snapshots” to assemble a model.

**DISPLAY** Real-time modeling.

While capturing massive amounts of data is quite an accomplishment, an even more impressive achievement of the Lava C.O.S. is the ability to model that data in real time. Unlike other systems on the market today, the Lava C.O.S. simultaneously displays the images that are being captured in the mouth onto the touch screen monitor. With this real-time visibility, a dentist can confidently and immediately assess whether enough information has been captured for a complete digital impression.
Quality of care.

Patients often complain about the experience of traditional dental impressions. With the Lava C.O.S., the wand tip glides above the teeth as it captures data. A recent study found that patients prefer a Lava C.O.S. digital impression over a traditional impression. In addition to turning an unpleasant procedure into a remarkable experience, the Lava C.O.S.:

- Enables improved communication between you and your patient
- Helps ensure precise-fitting restorations
- Provides consistency associated with digital processes, replacing the inherent inaccuracies of manual processes

Source: 3M internal data
Join the Lava™ Network.

Redefine your practice. Work with your existing lab.

Equipping your office with breakthrough impression technology will change the way you practice dentistry—but it won’t change the way you work with your existing lab. With the Lava™ Network, your lab continues to play a major role in producing your restorations.

Digital Impression
Dentist captures the digital impression, reviews it for accuracy and sends the digital prescription to an authorized lab to initiate a wide range of digital production processes.

Digitally Cut Die and Mark Margin
The lab downloads the digital file and uses customized software to digitally cut the die and mark the margin.

Virtual Ditching and Bite Registration
3M ESPE receives the digital file, where it is virtually ditched and the data is seamlessly articulated with the operative, opposing and bite scans.
Supports traditional and CAD/CAM processes.

The Lava network is a highly efficient, indirect restorative process used by dentists and labs to deliver a comfortable patient experience and a high-quality, precise-fitting restoration.

The efficiency begins with the very first step: capturing a digital impression with the Lava™ Chairside Oral Scanner C.O.S. From there, the Lava C.O.S. continues to maximize productivity by eliminating numerous steps at both the dental office and the lab:

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Whether you decide to use a traditional process, like PFM, or sophisticated CAD/CAM processes, including Lava™ Restorations, the Lava C.O.S. initiates the digital workflow by providing a highly accurate impression.
Put the future in motion.

Today and tomorrow.
Delivering precise-fitting restorations, providing patients with a comfortable, interactive and high-tech experience, and eliminating several steps in both the operatory and lab are just a few of the immediate benefits you’ll realize with the Lava™ Chairsde Oral Scanner C.O.S. When you put the future in motion with the Lava C.O.S., you’ll redefine your approach to indirect restorations and the way you interact with your patients and lab.

3D-in-Motion technology provides a strong foundation for the dental practice of the future, making the Lava C.O.S. the gateway to infinite possibilities.

Worldwide leader in impression solutions.
3M ESPE has been your trusted dental solutions provider for more than 40 years. With the addition of the Lava Chairsde Oral Scanner C.O.S., we’re extending our global leadership in impression solutions to digital dentistry. The systems and materials offered under the Lava Precision Solutions Portfolio highlight our unique ability to provide doctors and labs with innovative and integrated end-to-end digital solutions like the digital workflow.
Hello tomorrow.

For more information about the Lava™ Chairside Oral Scanner C.O.S. from 3M ESPE, visit www.3MESPE.com/LavaCOS or contact the 3M ESPE Customer Care Center at 1-800-634-2249.