A woman has claimed that high levels of lead were found in her dental crown work, which, she says, was made in China. She had received a three-unit dental bridge and after having an adverse reaction to her dental work, and having it removed, her dentist disclosed that the work had been sent to a dental laboratory in China.

The patient then had the restoration sent to a chemical laboratory for analysis. The documentation of the dental material analysis of this patient’s restoration showed unsafe levels of lead in the porcelain on the restoration. In the wake of this report, the American Dental Association (ADA) has issued a warning.

The ADA says there is no appropriate use for lead in manufacturing dental prosthetics, and the association is working with the federal regulatory agencies and the dental laboratory industry to “determine the specifics” of the incident and determine whether it is an isolated case or indicative of a larger problem.

In a statement, the ADA says it is informing all member dentists about the news reports, and it has contacted appropriate federal authorities, including the Food and Drug Administration and the Centers for Disease Control and Prevention. "We have begun our own investigation into the safety of both foreign and domestically produced dental crowns and other dental prostheses," it says. "However, our investigation should not be viewed as a substitute for necessary oversight and enforcement by the federal and state government agencies responsible for protecting the public’s health and safety.

The ADA adds that it is taking the reports 'very seriously,' but 'there simply isn't enough information available to presume that the presence of lead in dental crowns or other prostheses is widespread.' Only 15 to 20 percent of dental prostheses used in the U.S. come from foreign labs, and China accounts for only part of that share. The Association advises patients to discuss any concerns about the safety of their dental crowns or other prosthetic devices with their dentists and suggests questions that could be asked.

UK response

The story aroused the interest of the UK media. Richard Daniels, the chief executive of the Dental Laboratories Association, (DLA) told the press that the number of potentially dangerous imports was rising. At this point nobody knows what the health risks are, he said. 'The fact is that the majority of NHS work will be coming from China or India in the next five years. We need to be moving towards proper regulation of the industry. It’s not just a matter for the NHS either - many of the big corporate groups also have agreements with factories in China to make their fixtures.'

David Smith, a board member of the DLA, said: ‘The worst case scenario is we’ll end up with a large number of people in the UK with mouths full of lead and they’ve got no idea that that’s the case. In theory what happened in America should never happen here as there are regulatory bodies which should prevent these problems in the UK.

‘But the truth is, if the situation isn’t addressed then it is only a matter of time before there is a similar case as in the States. We’ve watered down all the rules in such a way that you could drive a bus through them. In the end, the whole system is profiteering. Any savings made by outsourcing the work to China are never passed on to the patient.’

Concern grows in USA over lead in crowns from China

Debuting at the 2008 ADA Annual Session in San Antonio, Texas, this year’s show is building an interactive, educational center at the San Antonio convention center for its attendees. The Live Operatory Center, which will take place in the Gallery, a 15,000 sq. ft. area located in the exhibit hall, adjacent to registration. In the Live Operatory Center, attendees will have a unique blend of product training and continuing education.

The Live Operatory Center is a high tech environment that attendees can use as consumers on the exhibit floor, and skills they can take back and implement in their practice.

All dental procedures and patient demonstrations in the area are displayed on multiple 60-inch flat screen monitors, featuring detailed images collected from intra-oral cameras and hand-held camera operators. This high-tech, cutting-edge center will be divided into three distinct educational disciplines:

- The Laser Pavilion
- The 3-D Imaging Center
- The CAD/CAM Stage

The Laser Pavilion: Working together, the ADA and the Academy of Laser Dentistry, have designed a new model for educating dental professionals on the safe and effective use of laser technology and the benefits of lasers to their practice. The Laser Operation takes up roughly one-half of the Gallery and is divided into two separate rooms: a lecture room; and a workshop room. Forty participants at a time will attend a 45-minute lecture, immediately followed by a 75-minute hands-on workshop. This design will allow the Annual Session to accommodate 500 attendees between Wednesday afternoon and Sunday. The cost per person to attend the course will be $US95.

The 3-D Imaging Center: In 2007, the ADA conducted live patient scanning with four 3-D imaging machines in one of the Education in the Round (EIR) classrooms. This was the first time this type of demonstration had ever been done at a major medical meeting.

For 2008, the ADA is expanding this program and moving the 3-D imaging to the Live Operatory Center. The 3-D Imaging Center will encompass ¼ of the Gallery and feature four of the companies that participated in 2007, along with two new companies for 2008. Lead lined glass protection shielding will be built in the Gallery and will remain up during the duration of the Annual Session. This will allow for a five-day exposure to 3-D imaging for attendees, as opposed to one day in 2007. In addition, the ADA will have the opportunity to accommodate six machines, as opposed to four in 2007.

CAD CAM Stage: The remaining ¼ of the Gallery will have two mini-theaters with seating for 40 people in each. One theater will house the equipment for the CEREC system from Sirona and the other will have the E4D system from Schein. Attendees will have the opportunity to attend a 45-minute presentation on CAD CAM dentistry from each company that will include a full demonstration of the making of a crown from the point that the prep is done and conclude with the delivery of the crown on a tyopond.

The Preliminary Program and online registration and housing for the Annual Session will both be available in April at www.ada.org/goto/session. International dentists who join the ADA as affiliate members received a special discounted registration to the Annual Session. Contact the ADA by e-mail, international@ada.org, or call +1.512.440.2720 for more information.

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