Letter to Editor

Disinfecting dental impressions: A necessity for all!

Before the impressions are dispatched to the dental laboratory, it is solely the dentist's responsibility that they are disinfected in an appropriate manner. Uncertainty of impression disinfection risks both the health of the receiving dental technician and potential repeat disinfection of an already disinfected impression with detrimental consequences for its dimensions. Casts are one of the difficult prosthodontic items to be disinfected, and it is preferable to disinfect the impression so the resulting cast itself will not have to be disinfected. Therefore, proper disinfection of contaminated dental impressions and other dental items leaving the immediate chair-side area remains the best approach to preventing the spread of infections in dentistry.

Dentists, dental assistants, dental technicians, and other laboratory personnel are exposed to infectious diseases from patient's saliva or blood. These may spread via droplets, aerosols, or by direct contact.[1] Impressions taken from patient's mouths are also significant sources of cross-contamination.[2] Rinsing the impressions in running water for disinfection is not recommended and it is a method of decontamination that does not completely remove the pathogens.[3] Researchers have found that oral pathogens could be transmitted subsequently from impressions to gypsum casts.[4] Therefore, dental personnel pose a higher risk of infectious diseases, such as hepatitis B virus (HBV), human immunodeficiency virus (HIV), herpes simplex viruses (HSV), tubercle bacillus, and viruses infesting the upper respiratory tract. This transmission risk is potentially higher than other individuals.[5,6] Certain guidelines set by the American Dental Association (ADA) and the Centers for Disease Control (CDC) suggest that all surfaces splashed or touched by human body fluids must be disinfected with a hospital-grade disinfectant. They also recommend that the disinfectant in use must be registered with the Environmental Protection Agency.[7] Therefore, impressions must be disinfected using an adequate level of disinfection.

Among the currently recommended disinfectants, the disinfectants used for this purpose are formaldehyde, glutaraldehyde, chlorine compounds, iodophores, and phenols in adequate concentrations. However, a controversy still exists in literature and the disinfection protocol for many impression materials is still not clarified.

When disinfecting dental impressions, it is recommended that a correct dilution of the disinfection agent is used, as dilutional changes will affect the efficacy of solution used. The dentist must also indicate clearly to the technician that the disinfection procedure has been carried out in the clinic. Importantly, it must also be ensured that repeat disinfection by technicians is not carried out because this will have deleterious effects on the dimensional stability of the impression materials.

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References

1. Center of Disease Control. Recommended infection-control practices for dentistry. In: Services DoHH, editor: U.S. Government Printing Office; 1986.
2. Ho DD, Byington RE, Schooley RT, Flynn T, Rota TR, Hirsch MS. Infrequency of isolation of HTLV-III virus from saliva in AIDS. N Engl J Med 1985;313:1606.
3. Beyerle MP, Hensley DM, Bradley DV Jr, Schwartz RS, Hilton TJ. Immersion disinfection of irreversible hydrocolloid impressions with sodium hypochlorite. Part I: Microbiology. Int J Prosthodont 1994;7:234-8.
4. Leung RL, Schonfeld SE. Gypsum casts as a potential source of microbial cross-contamination. J Prosthet Dent 1983;49:210-1.
5. Schiff ER, de Medina MD, Kline SN, Johnson GR, Chan YK, Shorey J, *et al*. Veterans Administration cooperative study on hepatitis and dentistry. J Am Dent Assoc 1986;113:390-6.
6. Look JO, Clay DJ, Gong K, Messer HH. Preliminary results from disinfection of irreversible hydrocolloid impressions. J Prosthet Dent 1990;63:701-7.
7. Council on Dental Practice. Council on Dental Therapeutics. J Am Dent Assoc 1988;116:614.

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