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REVIEWS

GUIDELINES AND POLICIES FOR INFECTION CONTROL IN DENTAL LABORATORIES

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ABSTRACT

INTRODUCTION: Recommendations for infection control in dental laboratories have evolved as an integral part of guidelines for infection risk management in oral health facilities. With the advancement of science and technology, as well as under the influence of significant events that have had an impact on public health, these recommendations have changed from brief instructions for cleaning prosthetic structures to a comprehensive policy for infection risk control in dental laboratory practice.

AIM: The aim of this report is to present a historical overview and analysis of the development of guidelines and policies for infection control in dentistry with a focus on dental laboratories.

MATERIALS AND METHODS: A search was conducted for published policies and evidence-based guidelines for infection control in dentistry and dental laboratories from health and professional organizations in Europe and the United States of America (USA). The search was conducted in July 2025, in English and Bulgarian, in the electronic databases PubMed, Research gate, Google Scholar, and on the official websites of the respective organizations.

RESULTS AND DISCUSSION: Seventeen documents containing policies or guidelines for infection control in dental facilities were found and assessed. Eight of these contained specific recommendations for infection control in the dental laboratory. They concerned topics such as: disinfection and sterilization of materials, instruments, equipment and environment; personal protective equipment; communication and coordination between the laboratory and the dental office; written infection control policy; vaccination policy; infection control training; waste management. There are no such specific Bulgarian guidelines.

CONCLUSION: Modern guidelines represent comprehensive standards for infection prevention. Their effectiveness depends on systematic updating and integration of new scientific evidence and technological achievements. In Bulgaria, there is a need for specific national guidelines for dental laboratories to support the implementation of established standards and good practices.

Keywords: *infection control, dentistry, dental laboratory, guidelines, recommendations, policies*

INTRODUCTION

Infection control in dental settings is a standard of care and a recognized priority for the health of patients and healthcare professionals. The evidence supporting the implementation of modern infection risk control practices in dentistry has a long history closely related to the developments in microbiology, epidemiology, public health, clinical practices and technologies (1).

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In 1847, the Hungarian physician and scientist Ignaz Semmelweis first demonstrated that infection could be inadvertently caused by healthcare professionals's practice and that there were ways to prevent this event (2). Later, scientists such as Louis Pasteur and Robert Koch conducted groundbreaking research in microbiology and bacteriology, discovering that specific microorganisms are responsible for the spread of infections, which changed the understanding of diseases and led to the development of methods for their treatment and prevention (3,4).

Stimulated by the efforts of the British physician Joseph Lister, hospitals began to implement aseptic techniques, including preoperative hand washing and wound dressings, to prevent infection during surgery (4).

These findings were also adopted in dentistry. In 1876, the British dentist Ashley Barrett described the use of antiseptic practices to prevent infection during root canal treatment. American dentist W. D. Miller popularized the importance of cleaning and sterilizing dental instruments before reuse (2,3).

Research on the spread of infections through aerosols in the late 19th century, although appreciated years later, led to changes in infection control practices in dentistry with the introduction of high-speed turbines and ultrasonic scalers in the late 1950s (2).

In the early 1980s, the HIV/AIDS epidemic and the increasing prevalence of hepatitis B were recognized as global public health problems, leading to a complete reassessment of infection risk in medical and dental practices. Procedures for sharps management, sterilization of instruments by autoclaving, and protocols for the use of personal protective equipment were introduced (2,3).

Later, in the late 1990s, the diagnosis of cases of Creutzfeldt-Jakob disease in humans after consumption of contaminated of beef and the discovery that the infectious agent is present in animal dental pulp led to greater emphasis on single-use instruments in dental practice and cleaning before sterilization when reprocessing instruments (3,5).

The COVID-19 pandemic further prioritized the importance of infection control and stimulated the development of new protocols and approaches in dentistry, with an emphasis on dental aerosols control (6,7).

AIM

The aim of this report is to provide a historical overview and analysis of the development of infection control policies and guidelines in dentistry with a focus on dental laboratories.

MATERIALS AND METHODS

A search was conducted for published infection control policies and guidelines in dentistry from international and national health and professional organizations. The search was conducted in July 2025, in English and Bulgarian, in the electronic databases PubMed, Research gate and Google Scholar and the reference lists of the included scientific publications was reviewed. The search period was set from 1970 to 2025. The keywords used were: *infection control, dentistry, dental laboratory, guidelines, recommendations, policies*. An additional search was conducted on the official websites of the following organizations: World Dental Federation (FDI), Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), European Centre for Disease Prevention and Control (ECDC), American Dental Association (ADA), Ministry of Health of the Republic of Bulgaria, Bulgarian Association of Dental Technicians (BADT), Bulgarian Dental Association (BgDA).

Publications/documents were included in the review if they were issued by international health and national professional health organizations, have influenced the creation and development of infection control guidelines in dental facilities globally, in the United States, European countries, and Bulgaria in the period from 1970 to 2025, and were published in full text in English or Bulgarian. From all documents including guidelines, data was extracted for: authors, year of publication, title, presence of a section with guidelines for infection control in dental laboratories and its content.

RESULTS

The 17 documents included in this report are presented in a chronological order, structured according to the organization that has prepared and

Table 1. Documents included in the review.

Year of publication	Authors (reference number)	Document title	Dental laboratory guidance section (title)
1978	ADA, Council on dental materials and devices, Council on dental therapeutics [16]	Infection control in the dental office	Laboratory procedures
1985	ADA, Council on dental therapeutics, Council on prosthetics services and dental laboratory relations [18]	Guidelines for infection control in the dental office and the commercial dental laboratory	Commercial dental laboratory
1988	ADA, Council on Dental materials, instruments, and equipment, Council on dental practice, Council on dental therapeutics [19]	Infection control recommendations for the dental office and the dental laboratory	Practices for the dental laboratory (checklist) included)
1992	ADA, Council on scientific affairs and Council on dental practice [20]	Infection control recommendations for the dental office and the dental laboratory	Practices for the dental laboratory
1996	ADA, Council on scientific affairs, Council on dental practice [21]	Infection control recommendations for the dental office and the dental laboratory	Practices for the dental laboratory
1986	CDC [10]	Recommended infection control practices for dentistry	Decontamination of laboratory supplies and materials
1993	CDC [12]	Recommended infection control practices for dentistry, 1993	Disinfection and the dental laboratory
2003	CDC [14]	Guidelines for infection control in dental health-care settings-2003	Dental laboratory
2016	CDC [15]	Summary of infection prevention practices in dental settings: Basic expectations for safe care	
1998	FDA [23]	FDI Policy statement, Dental laboratory technician	
2009	FDA [22]	FDI Policy statement, Infection prevention and control in dental practice	
2020	WHO [26]	Considerations for the provision of essential oral health services in the context COVID -19	
2020	ECDC [27]	COVID-19 infection prevention and control measures for primary care, including general practitioner practices, dental clinics and pharmacy settings: first update	
2003	British dental association BDA [28]	Advice sheet, Infection control in dentistry A12	
2013	NHS England [29]	Health Technical Memorandum 05-01: Decontamination in primary care dental practices.	
2003	Ministry of Health of Republic of Bulgaria [31]	Ordinance No. 30 of 19.12. 003 on the approval of a medical and technical standard in dental technology	
2013	Ministry of Health of Republic of Bulgaria [30]	Ordinance No. 3 of 8.05.2013 on the approval of a medical standard for the prevention and control of nosocomial infections	

proposed them. Summarized information for the documents is presented in Table 1.

1. Guidelines from the US Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention (CDC), as the leading institution in the United States responsible for disease prevention, is committed to creating guidelines and recommendations for good practices, including the area of infection control in dentistry.

The HIV/AIDS epidemic became a major impetus for the CDC to reassess the risk of infection in medicine and dentistry in particular, leading to the development and adoption of the concept of *universal precautions* in the treatment of all patients, introduced in 1985 (3). The concept of universal precautions aims at preventing the transmission of bloodborne pathogens, including HIV and hepatitis B, when treating all patients, regardless of their infection status. Key elements of the universal precautions include: hand hygiene, use of personal protective equipment, including gloves, masks, protective eyewear, safe handling of sharp objects, and disinfection (8).

Universal precautions require that blood and certain body fluids be treated as potentially infectious, regardless of the patient's medical history and perceived risk. Key for dental professionals is the inclusion of a statement that blood and other body fluids, including saliva, are considered potentially infectious for occupationally transmitted pathogens such as hepatitis B and C and HIV (9).

The CDC published the first document related to infection control in the dental practice, *Recommended Practices for Infection Control in Dentistry* in 1986 (10). The main recommendations in the document introduced the concept of *universal precautions* for infection control in the dental facilities (11). The document included also guidelines for decontamination of laboratory materials and instruments, emphasizing the importance of communication between the dental office and the dental laboratory regarding the disinfection processes. The CDC later worked with ADA to develop and publish *Recommended Practices for Infection Control in Dentistry* in 1993 (12). Recommendations for dental practice were included, but recommendations for dental laboratories remained unchanged.

In 1996, the CDC expanded the concept of *universal precautions* and renamed it *standard precautions* (9,11,13). It evolved into a standard of health and dental care designed to protect healthcare professionals and patients from pathogens that can be spread through blood or other body fluids, secretions, or excretions.

Standard precautions should be applied in cases of contact with 1) blood; 2) all body fluids, secretions, and excretions (except sweat), whether or not they contain blood; 3) intact skin; and 4) mucous membranes. Key elements of standard precautions are: 1. hand hygiene; 2. use of personal protective equipment; 3. sharp object safety; 4. safe injection practices; 5. cleaning, disinfection, and sterilization of equipment and the environment; 6. respiratory hygiene, and cough etiquette.

Standard precautions are internationally accepted, and have a fundamental place in many national standards and strategies for infection prevention and control in medicine and dentistry, and are endorsed by the FDI (3).

In 2003, the CDC updated its infection control guidelines specifically for dentistry—*Guidelines for Infection Control in Dental Health-Care Settings—2003*. In the new update, the justification for the published recommendations is more detailed, and the format of developing the guidelines has also changed (14). The recommendations are categorized by degree of significance based on existing scientific evidence, their theoretical validity and applicability.

The update addresses all aspects of infection control in dental facilities: 1) training and protection of dental healthcare personnel; 2) prevention of bloodborne pathogen transmission; 3) hand hygiene; 4) personal protective equipment use; 5) contact dermatitis and latex hypersensitivity; 6) sterilization and disinfection of patient care items; 7) environmental infection control; 8) water lines, biofilm, and water quality; and 9) special considerations—dental laboratories, radiology, oral surgical procedures, etc.

The recommendations address the entire spectrum of dental health personnel exposed to the risk of cross-infection in connection with their work, including dental technicians. The 2003 document in-

cludes specific recommendations for infection risk control in dental laboratories in a Special Considerations section, covering topics such as:

1. disinfection of dental prostheses, appliances, and items used in their fabrication (e.g., impressions, occlusal rims, and bite registrations);
2. disinfection and sterilization of instruments, equipment, and environment;
3. communication and coordination between the laboratory and the dental office regarding ensuring appropriate procedures for disinfection of materials and avoiding their repeated disinfection, which creates a risk of damage, as well as determining responsibility for the final disinfection process;
4. providing written information regarding disinfection methods (type of disinfectant and exposure time) when a laboratory case is sent off-site;
5. establishing a separate area for receiving and disinfecting materials, separate from the production area;
6. use of personal protective equipment;
7. treatment of waste generated in the dental laboratory;
8. training of dental healthcare workers on infection control, an infection control program, and clearly written policies, procedures, and guidelines.

Following a significant update of infection control guidelines in 2003, the CDC published *Summary of Infection Prevention Practices in Dental Facilities: Basic Expectations for Safe Care* in 2016 (15). The document summarizes the 2003 guidelines, establishing standard precautions as the basis for preventing the transmission of infectious agents during patient care. For the first time, tools are proposed to help dental professionals follow infection prevention guidelines, including:

- a summary of basic infection prevention principles and recommendations for dental conditions;
- a checklist to assist in assessing dental staff compliance with infection prevention recommendations; and
- key references and resources for each area, including sterilization, safe injection practices, and hand hygiene.

The 2003 CDC Guidelines and their 2016 Summary are comprehensive and evidence-based sources for infection control practices applicable to dental healthcare settings that are designed to protect dental professionals and their patients.

1.1. American Dental Association

The ADA is one of the most active institutions that has contributed to the establishment of international practices for infection prevention in dental work (11). The first specific report on infection control in dental offices by the ADA was published in 1978 (16).

During this period, increased awareness of the routes of infection transmission and growing concern about the spread of hepatitis B associated with dental treatment have led to an increased need to implement standard infection control procedures in dental practice (1,3,17). The focus of the document is on clinical practice recommendations that cover: 1) patient medical history with emphasis on patients who may be carriers of infectious disease; 2) cleaning, disinfection, and sterilization of instruments and surfaces; 3) use of physical barriers during treatment, including gloves, masks, and safety glasses; 4) procedures to reduce the spread of microorganisms; 5) use of single-use instruments and special attention to the water lines of the dental unit.

Although the report focused primarily on the clinical practice of dentists, the association includes for the first time a brief recommendation for dental laboratories. It only addressed the cleaning of prosthetic devices before procedures that may generate aerosols and the use of protective devices and air evacuation systems during work. In contrast to current infection control guidelines, the Association specified that this was only necessary when working with materials that had come into contact with patients known to have an infectious disease. No recommendations were made for disinfection and sterilization in the dental laboratory.

In subsequent updates to the guidelines, the ADA has included much more detailed recommendations for dental laboratories that cover various aspects of dental laboratory practice, including disin-

fection and sterilization, personal protective equipment use, waste management, and more.

In 1985, in response to the universal precautions recommended by the CDC, the ADA published the first detailed guidelines for infection control in the dental office and dental laboratory (18). To date, infection control in dental laboratories has not been systematically regulated. Guidelines were developed in conjunction with the National Association of Dental Laboratories in the United States and in the document, for the first time, detailed recommendations for dental technical practice were included. In contrast to the earlier recommendations for laboratories (1978), the 1985 recommendations were much more detailed and covered aspects such as: 1) use of personal protective equipment, 2) disinfection and sterilization of materials, instruments, work surfaces and equipment, 3) requirements for the choice of disinfectant, 4) separation of instruments and materials used for new and contaminated prostheses, 5) disinfection of the material reception area in the laboratory; 6) addition of disinfectant to the polishing pumice and daily change of the suspension; 7) air filtration system and guards for grinding and polishing equipment.

The recommendation that infection control procedures in laboratory activities be applied only to patients with an infectious disease was no longer in place, but dentists were advised to notify the laboratory if the patient is at high risk of infection.

The next update of the recommendations (19) issued by the ADA in 1988 made important changes. The recommendations included checklists for the dental office and dental laboratory with key infection control practices to assist dental professionals in their proper adherence.

Recommendations for dental laboratories have been updated and structured according to the areas of the laboratory: reception area, incoming cases, use of protective clothing and barrier techniques, waste control, production area, and outgoing cases. New recommendations were made, including: 1) designating an area for receiving and disinfecting materials, separately from the work area; 2) sterilization and disinfection of polishing brushes; 4) use of individual doses of pumice for each individual case; 3) waste management. A new recommendation was made regarding communication between the laboratory and the dental office—it was recommended that the laboratory inform dentists about the infection control procedures it applied. The ADA also recommended that dental laboratories implement infection control programs. In a later update of the guidelines, which the Association carried out in 1992, the requirement that the program be coordinated with the dental office was added to this recommendation (20).

In 1996, the ADA again updated its infection control guidelines (21). However, there was no significant change in the recommendations for dental laboratories. A new recommendation to dental offices, which also concerned dental technical practice, was the requirement to label the disinfected impressions that the dental office sent to the laboratory in order to avoid duplication of the disinfection protocol. ADA later supported the guidelines for infection control in dental facilities issued by CDC in 2003 and their 2016 Summary. The association has also issued practical guides in response to the COVID-19 pandemic, subsequently updated.

1.2. World Dental Federation

An important moment in the processes of creating and implementing global international guidelines for infection control in the field of dentistry is the publication of the policy statement *Infection Prevention and Control in Dental Practice*, officially adopted at the General Assembly of FDI in Singapore, 2009 (22). This document was last revised in 2021 and has been adopted by all FDI members, including the BDA. The FDI recommends that oral health teams adhere to CDC standard precautions and, when necessary, new infection prevention and control precautions. The Federation urges dental teams to take appropriate measures to protect patients, staff, and themselves against infections by:

- appropriate physical protection when providing care, according to the level of risk;
- awareness of health problems arising in connection with the use of personal protective equipment
- priority vaccination against infectious diseases
- immediate assessment to determine the need for post-exposure testing and prophylaxis after occupational exposure to bloodborne pathogens, including HBV, HCV, and HIV;

- personal familiarization with the signs and symptoms of bloodborne and other infectious diseases, and conducting the necessary diagnostic tests if infection is suspected.

According to FDI, new technologies, materials, equipment, and recent data suggest a need for continuous evaluation of current infection control practices and ongoing education of the oral health team.

An important stage of this process is the publication of the policy statement *Dental Laboratory Technician*, adopted by the FDI in Spain in 1998 and last revised in 2024 in Istanbul (23). The FDI emphasizes the importance of occupational safety for dental technicians and requires guarantees of effective protective measures to limit all occupational risks, including infectious ones. The document emphasizes the need for continuous professional development of dental professionals, including updating and maintaining the infection control knowledge of dental technicians.

1.3. World Health Organization

WHO plays a leading role in the development of global policies for infection prevention and control.

In 2016, WHO issued the first international evidence-based guidelines on the core components of infection prevention and control programs (24).

In May 2022, the Seventy-Fifth World Health Assembly adopted the *Global Strategy on Infection Prevention and Control*. It focuses on combating infectious diseases in every setting where healthcare is provided, across the entire healthcare continuum. The strategy emphasizes the need to build a culture of safety, provide resources and train staff, regardless of the type of health facility (25).

WHO published specific guidelines for dentistry during the COVID-19 pandemic—*Considerations for the Provision of Essential Oral Health Services* (26), but there was no separate document specifically aimed at dental laboratories.

2. Influence of Professional and Healthcare Organizations in Europe on the Development of Infection Control Rules in Dental Practice

2.1. European Centre for Disease Prevention and Control

During public health emergencies, such as the COVID-19 pandemic, ECDC issued its specific guidance for dental practice regarding physical distancing of patients and use of appropriate personal protective equipment by staff, especially during aerosol-generating procedures (27).

The ECDC provided on its website a list of countries that have adopted national guidelines for infection prevention and control in dentistry, some of which are available in English. These include Austria, Belgium, Germany, Greece, Hungary, Ireland, Norway, Poland, Switzerland, and the United Kingdom.

2.2. British Dental Association

In 1991, BDA published a short guide titled *The Control of Cross-Infection in Dentistry*, developed in conjunction with the Department of Health in England (2). The document offered safe and realistic infection control practices in general dental practice and became one of the most sought-after documents of its time (2). The document was later updated in 2003 (28).

In the late 1990s, the diagnosis of cases of Creutzfeldt-Jakob disease in humans who had consumed contaminated beef triggered a public health emergency that led to a major paradigm shift in infection control in dentistry (2,3). The discovery of the infectious agent in animal dental pulp led to the creation of the first real infection control guidelines for dentistry in the United Kingdom, *Decontamination in Primary Dental Practices* (HTM 01-05). These were first published in 2009 by the English Department of Health and were later updated in 2013 (29). Chapter 7 includes recommendations for dental practice regarding the decontamination of dental impressions, dentures, and orthodontic appliances. Rules for disinfection and labeling of disinfected materials when sending them to the laboratory are described in detail. The document does not include recommendations for the dental laboratory.

Infection Control Policies in Bulgaria

In Bulgaria, the regulatory nature of the protection of patients and medical workers against infections associated with medical care is regulated by a Medical standard for the prevention and control of nosocomial infections, approved by Ordinance No. 3 of 8.05.2013 of the Minister of Health (30).

The standard confirms standard precautions and additional (isolation/barrier) measures as the main categories of precautions for the prevention

and control of infections. Section VIII of the Standard specifies specific requirements for the prevention and control of nosocomial infections in dental practice. The key requirements cover aspects such as: hand hygiene, use of personal protective equipment, processing and sterilization of dental instruments, disinfection of surfaces, waste management, etc. In Item 14 of the section, a requirement for decontamination of dental impressions, dental prostheses, and other materials is included, the instruction being that this should be done immediately after removal from the patient's mouth and the material should first be cleaned, then disinfected, according to the manufacturer's recommendations.

Unlike the 2003 CDC guidelines, which provide detailed instructions for implementing standard precautions measures specifically for dental facilities, the Bulgarian Standard for the prevention and control of nosocomial infections includes specific requirements for the dental practice as part of the general requirements for all healthcare facilities. There are no specific requirements for dental laboratories and technicians.

The requirements for the provision of dental technology services are regulated in Ordinance No. 30 of 19 December 2003 of the Minister of Health on the approval of a medical and technical standard for dental technology (31). According to that regulation, "dental technology activities must be carried out in compliance with the *Medical and Technical Standard for Dental Technology* and must be implemented by all dental laboratories in which dental technology activities are carried out." The requirements of the standard regarding the disinfection of dental impressions, dental prostheses, and orthodontic appliances can be summarized as follows: all described materials are cleaned and disinfected upon receipt from the dental office, but there are no details on how the cleaning and disinfection processes should be carried out. Upon completion of the manufacturing process, the appliances/materials have to be cleaned, disinfected and packaged "safely for delivery together with the instructions for the patient/client." There are no requirements for disinfectants that can be used to disinfect different materials, nor are there any requirements for the labeling of materials packaged for shipment. The standard does not specify the meaning of "safe for delivery" packaging, nor what the content of "patient and client instructions" should be.

DISCUSSION

The basic principles of infection control in the dental practice remain stable, but international guidelines evolve over the years to account for new evidence, technology, threats, and health risks.

Guidelines for infection control in medicine usually provide technical details that support both proper compliance with related laws and their understanding by practicing professionals (3).

The CDC and ADA play a leading role among international and national organizations issuing recommendations for infection control in dentistry. They provide guidelines and standards to ensure the safety of patients and dental professionals, which are distinguished by their detail and specific attention to dental laboratories. Over the years, the recommendations for dental laboratory practice of the ADA and the CDC have evolved from brief guidelines for cleaning prosthetic devices to a comprehensive policy for controlling the risk of infection in the laboratory, which covers hand hygiene, disinfection and sterilization of materials, equipment and surfaces, personal protective equipment, waste control, vaccination policy and training of dental technicians.

FDI adopts global oral health policies and standards and works to promote knowledge exchange and capacity building among the national dental associations that are members of the federation, including the BgDA.

Professional dental organizations play a key role in promoting infection safety, prevention and control as a professional responsibility of dental professionals. As key partners, they collaborate with government authorities and public health experts to issue guidelines for control of infections to ensure that guidelines are comprehensive, evidence-based, and widely adopted in practice (32). Professional organizations are also actively involved in continuous professional education covering also that important area of professional work.

In Bulgaria, there are currently no specific guidelines or recommendations for infection control in dental laboratories. Although the protection of

healthcare workers and patients from healthcare-associated infections is regulated in the *Medical Standard for Prevention and Control of Nosocomial Infections*, it does not provide specific recommendations for dental laboratories to assist dental professionals in meeting the requirements of the standard. Also, according to the Act on Professional Organizations of Nurses, Midwives and Associated Medical Specialists, Physician Assistants, Dental Technicians and Assistant Pharmacists (33), the BADT has the responsibility and obligation to adopt rules of good medical practice and to propose them for approval by the Minister of Health, after an opinion from the Executive Director of the Executive Agency „Medical Supervision". To date, the association has not adopted such rules. There is also no system for ensuring mandatory continuing education of dental technicians concerning important new aspects of their professional work.

CONCLUSION

The historical development of infection control policies in dentistry reflects the dynamic relationship between scientific progress, public health, and clinical practice. Dental laboratories, as an integral part of the dental care chain, require the implementation of a comprehensive policy and strict safety protocols. Although international guidelines are well developed and established, Bulgaria currently lacks specific national recommendations for dental laboratories to support the implementation of established standards and good practices as well as requirements and system for continuous professional education.

REFERENCES

1. Molinari JA. Dental infection control at the year 2000. J Am Dent Assoc. 1999 Sep;130(9):1291-8. doi: 10.14219/jada.archive.1999.0399.
2. Nield H. A short history of infection control in dentistry. BDJ Team. 2020;7(8):12–5. doi: 10.1038/s41407-020-0402-1.
3. Fulford MR, Stankiewicz NR. Infection control in primary dental care [Internet]. Cham: Springer International Publishing; 2020 [cited 2025 Aug 9]. Available from: http://link.springer.com/10.1007/978-3-030-16307-5
4. Smith PW, Watkins K, Hewlett A. Infection control through the ages. Am J Infect Control. 2012 Feb;40(1):35-42. doi: 10.1016/j.ajic.2011.02.019.
5. Whitworth CL, Palmer N. Decontamination in primary care dentistry. J Infect Prev. 2010 Nov;11(6):200–4. doi:10.1177/1757177410385368.
6. Goriuc A, Sandu D, Tatarciuc M, Luchian I. The impact of the COVID-19 pandemic on dentistry and dental education: A narrative review. Int J Environ Res Public Health. 2022 Feb 22;19(5):2537. doi: 10.3390/ijerph19052537.
7. Patel M. Infection control in dentistry during COVID – 19 pandemic: what has changed? Heliyon. 2020 Oct;6(10):e05402. doi: 10.1016/j.heliyon.2020.e05402.
8. CDC. Recommendations for prevention of HIV transmission in health-care settings [Internet]. 1987 [cited 2025 Sept 7]. Available from: https://www.cdc.gov/mmwr/preview/mmwrhtml/00023587.htm
9. Molinari JA. Infection control: its evolution to the current standard precautions. J Am Dent Assoc. 2003 May;134(5):569-74; quiz 631-2. doi: 10.14219/jada.archive.2003.0222.
10. CDC. Recommended Infection-Control Practices for Dentistry [Internet]. 1986 [cited 2025 Aug 11]. Available from: https://www.cdc.gov/mmwr/preview/mmwrhtml/00033634.htm
11. Molinari JA, Harte JA, Cottone JA. Cottone's practical infection control in dentistry. 3rd ed. Baltimore, Md.: Lippincott William & Wilkins; 2010.
12. CDC. Recommended Infection-Control Practices for Dentistry, 1993 [Internet]. 1993 [cited 2025 Aug 19]. Available from: https://www.cdc.gov/mmwr/preview/mmwrhtml/00021095.htm
13. Harte JA. Standard and transmission-based precautions: an update for dentistry. J Am Dent Assoc. 2010 May;141(5):572-81. doi: 10.14219/jada.archive.2010.0232.
14. Centers for Disease Control and Prevention. Guidelines for Infection Control in Dental Health-Care Settings — 2003. MMWR. 2003 Dec 19;1–61.
15. Centers for Disease Control and Prevention. Summary of infection prevention practices in dental settings: Basic Expectations for safe care. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; October 2016.
16. American Dental Association. Infection control in the dental office. J Am Dent Assoc. 1978 Oct;97(4):673–7.

17. Mosley J, Edwards V, Casey G, Redeker A, White E. Hepatitis B Virus Infection in Dentists. N Engl J Med. 1975;293(15):729–34. doi: 10.1056/NEJM197510092931501.

18. Council on Dental Therapeutics; Council on Prosthetic Services and Dental Laboratory Relations, American Dental Association. Guidelines for infection control in the dental office and the commercial dental laboratory. J Am Dent Assoc. 1985 Jun;110(6):969-72. doi: 10.14219/jada.archive.1985.0016.

19. American Dental Association. Infection control recommendations for the dental office and the dental laboratory. The Journal of the American Dental Association. 1988 Feb;116(2):241–8. doi.org/10.14219/jada.archive.1988.0341.

20. American Dental Association. Infection Control Recommendations for the Dental Office and the Dental Laboratory. J Am Dent Assoc. 1992 Aug;123(8):1–8.

21. Infection control recommendations for the dental office and the dental laboratory. ADA Council on Scientific Affairs and ADA Council on Dental Practice. J Am Dent Assoc. 1996 May;127(5):672-80. doi: 10.14219/jada.archive.1996.0280.

22. FDI World Dental Federation. Infection prevention and control in dental practice [Internet]. [cited 2025 Aug 24]. 2021 Sep. Available from: https://www.fdiworlddental.org/infection-prevention-and-control-dental-practice

23. FDI World Dental Federation. Dental Laboratory Technician. Int Dent J. 2025 Feb 1;75(1):1–2. doi: 10.1016/j.identj.2024.12.003.

24. World Health Organization. Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level [Internet]. Geneva: World Health Organization; 2016 [cited 2023 Apr 19]. 90 p. Available from: https://apps.who.int/iris/handle/10665/251730

25. World Health Organization. Global strategy on infection prevention and control. Geneva: World Health Organization; [Internet]. 2023 [cited 2025 Sept 7]. Available from: https://www.who.int/publications/i/item/9789240080515

26. World Health Organization. Considerations for the provision of essential oral health services in the context of COVID-19 [Internet]. 2020 [cited 2025 Sept 7]. Available from: https://iris.who.int/bitstream/handle/10665/333625/WHO-2019-nCoV-Oral_health-2020.1-eng.pdf?sequence=1

27. ECDC: Stockholm. COVID-19 infection prevention and control measures for primary care, including general practitioner practices, dental clinics and pharmacy settings: first update. 2020.

28. British Dental Association. Advice Sheet A12. London: BDA; 2003.

29. Department of Health. Health Technical Memorandum 05-01: Decontamination in primary care dental practices [Internet]. London: The Stationery Office; 2013 [cited 2025 Sep 22]. Available from: https://www.gov.uk/government/publications/decontamination-in-primary-care-dental-practices-htm-05-01

30. Ministry of Health. Ordinance No. 3 of 8 May 2013 on the approval of the medical standard for the prevention and control of healthcare-associated infections [in Bulgarian]. Sofia: Republic of Bulgaria; 2013.

31. Ministry of Health. Ordinance No. 30 of 19 December 2003 on the approval of the medical-technical standard for dental technology [in Bulgarian]. Sofia: Republic of Bulgaria; 2003.

32. Eklund K, Marianos D. Providing a safe environment for dental care in an era of infectious diseases. J Am Dent Assoc. 2013 Dec 1;144(12):1330–2. doi: 10.14219/jada.archive.2013.0062.

33. Ministry of Health. Law on Professional Organizations of Nurses, Midwives, and Associated Medical Specialists, of Medical Assistants, Dental Technicians, and Pharmacy Assistants [in Bulgarian]. SG No. 91/2018, amended SG No. 39/2024, effective from 01.05.2024. Republic of Bulgaria.