

# RECOMMENDATIONS OF THE POLISH DENTAL ASSOCIATION AND THE POLISH MEDICAL SOCIETY OF RADIOLOGY WORKING GROUP REGARDING TAKING DENTAL RADIOGRAPHS DURING THE PANDEMIC OF COVID-19

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1. In SARS-CoV-2-positive patients diagnosed with PCR tests and in persons under quarantine, all dental radiographs should be taken only in facilities, which are specifically dedicated to treatment of COVID-19 patients, such as infectious diseases hospitals, hospitals with infectious diseases wards, and special dental offices or mobile dental offices (“dentobus”) designated to provide services to these patients [1, 2].

2. In persons suspected of COVID-19 (with symptoms or in-wait for results of PCR testing) and in persons suspected of false negative result of PCR test, it is not recommended to perform dental radiography until COVID-19 infection is excluded (negative PCR test obtained or, in the latter, a second negative PCR test result obtained) [1, 2].

3. If diagnostic imaging of the maxillofacial area must be conducted in patients with SARS-CoV-2-positive PCR test result and in persons under quarantine, the “Rules for management of COVID-19 patients in a Radiology Department – the guidelines of the Polish Medical Society of Radiology and the National Consultant in Radiology and Diagnostic Imaging” must be followed, considering distinct features of dentomaxillofacial radio-

graphy [1, 2]. In a patient suffering from COVID-19, taking a panoramic radiograph may pose a challenge (severe general status of patient, inability to maintain sitting or standing position, problems with standing still during the exposure), while wearing a single-use face mask hampers the patient’s correct positioning for panoramic radiograph (it is not possible to bite the groove of the bite peg through the face mask, and laser positioning lights are directed on the mask, not on the facial features of patients) [3, 4]. Some face masks contain radiopaque elements that produce artefacts, which are visible on panoramic radiographs. In such cases, oblique lateral radiograph of mandible can be considered as an alternative to panoramic radiograph [3].

4. During intraoral radiography, especially periapical radiography, an increased production of saliva is observed due to intraoral positioning of image sensor. Moreover, in some patients, gagging reflex occurs, and the contact of staff with patient’s saliva is greater in intraoral radiography than in extraoral radiography [3-6]. In the COVID-19 epidemic, it is recommended to substitute periapical radiographs with panoramic radiographs (if possible, to limit the exposure to one half of the panoramic

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or just a section of the radiograph) and in selected or complicated cases, cone-beam computed tomography (CBCT) should be used. It is acceptable that an intraoral radiograph is taken in a dental office, but a radiograph of choice should be occlusal radiograph [3]. Measures of personal protection of patient and staff members, procedures of patient handling, and disinfection procedures of dental office are identical as in case of dental treatment in the same office [5].

5. As in Poland is mandatory to use protective lead aprons and collars during dentomaxillofacial radiography [7], a lead collar should be disinfected after every patient's visit, while an apron without collar, after contamination with patient's secretions.

6. In case a dental radiograph is taken in separate dentomaxillofacial X-ray lab or in department of dentomaxillofacial radiography, the following course of action is recommended [1-6]:

A. Before entering the facilities of dentomaxillofacial X-ray lab or the department of dentomaxillofacial radiography, the patient must remove a removable denture or a removable orthodontic appliance, and store it in such a way that the staff and X-ray devices and surfaces in the facility are not in contact with either denture or appliance. It is recommended that the referring practitioner instructs the patient that it is mandatory to arrive to the X-ray facility without the removable denture or removable orthodontic appliance. It is recommended that patients remove other metallic objects from the head and neck area (e.g., jewelry, hair pins) and store them in such a way that staff, X-ray devices, and surfaces in the facility are not in contact with these objects.

B. Before entering the facilities of dentomaxillofacial X-ray lab or the department of dentomaxillofacial radiography, the patient should have his/hers mouth and nose covered with a single-use face mask, disinfected hands or wear single-use gloves, and the patient's temperature should be measured using a contactless thermometer.

C. Before entering the facilities of dentomaxillofacial X-ray lab or the department of dentomaxillofacial radiography, the patient's risk of SARS-CoV-2 infection must be assessed.

D. An adult patient enters the facilities of dentomaxillofacial X-ray lab or the department of dentomaxillofacial radiography alone; in case of a child or a disabled patient, one accompanying person wearing a single-use face mask and single-use gloves is acceptable.

E. The patient waits for the examination and test result in a designated place, maintaining adequate social distance.

F. Personal protection measures of a radiographer in the dentomaxillofacial X-ray lab or the department of dentomaxillofacial radiography include at least:

- single-use textile apron, bonnet, and footwear cover, exchanged in case of a damage or contamination,

- single-use gloves, which are changed after every patient's visit, and in case of an intraoral radiograph being taken, after every contact with patient's secretions (mainly saliva),
- face shield or goggles,
- single-use face mask, which is changed after every patient's visit; alternatively, a FFP2 or FFP3 mask that can be used for 4 to 6 hours according to the recommendations of the National Consultant in Infectious Diseases in Poland.

G. Once the radiograph is taken, X-ray machine, contact surfaces (such as door handles and other handles) must be disinfected according to local infection control protocols, and floor wiped in case of its contamination with saliva.

H. According to the rules of radiological protection in Poland, in every X-ray lab, mechanical or gravitational ventilation mechanisms are provided, which allow for adequate exchange of ionized air. During the epidemic, it is also recommended to additionally ventilate the lab by opening windows.

I. Minimum time span between two patients in the same X-ray lab depends on the time of completing the radiographic procedure, and minimum time necessary for effective disinfection of the room and preparing the office for a visit of next patient.

J. It is recommended to refrain from using any paper documents, including referrals, as through paper documents the infection transmission may occur. At the same time, it is necessary to disinfect on regular basis computer keyboards and flat surfaces such as registration desks, desks of image acquisition, or consoles. If possible, teleradiology solutions should be implemented, so that a radiologist can report X-rays from home, especially in the need of self-isolation.

## References

1. Cieszanowski A, Czekajska E, Giżycka B, et al. Wskazania do wykonywania badań obrazowych w zakażeniach SARS-CoV-2 – zalecenia Polskiego Lekarskiego Towarzystwa Radiologicznego. Available at: <https://pltr.pl/wp-content/uploads/2020/03/Zalecenia-2020.03.30-PLTR-COVID-19-Wskazania-do-obrazowania.pdf> (Accessed: 14.05.2020) [In Polish].
2. Zasady postępowania z pacjentami z COVID-19 w zakładzie radiologii – Zalecenia Polskiego Lekarskiego Towarzystwa Radiologicznego i Krajowego Konsultanta ds. Radiologii i diagnostyki obrazowej. Available at: <https://pltr.pl/wp-content/uploads/2020/03/2020.03.23-COVID-zalecenia-PLTR-1-1.pdf> (Accessed: 14.05.2020) [In Polish].
3. Recommendations for Diagnostic Imaging during COVID-19 pandemic. Available at: <https://www.rcseng.ac.uk/dental-faculties/fds/coronavirus/> (Accessed: 14.05.2020).
4. Vandenberghe B, Jacobs R, Bosmans H. Modern dental imaging: a review of the current technology and clinical applications in dental practice. *Eur Radiol* 2010; 20: 2637-2655.
5. Dominiak M, Różyło-Kalinowska I, Gedrange T, et al. The Polish Dental Association Working Group recommendations for procedures in dental office during an increased epidemiological risk. *J Stoma* 2020; 73: 1-10.

6. Meng L, Hua F, Bian Z. Coronavirus Disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine. *J Dent Res* 2020; 99: 481-487.
7. Rozporządzenie Ministra Zdrowia z dnia 18 lutego 2011 r. w sprawie warunków bezpiecznego stosowania promieniowania jonizującego dla wszystkich rodzajów ekspozycji medycznej (Dz.U. z 2011 r., Nr 51, poz. 265, Dz. U. z 2013 r., poz. 1015) z uwzględnieniem wyroku Trybunału Konstytucyjnego z dnia 30 lipca 2013 r. (Dz. U. poz. 1023) i rozporządzenia Ministra Zdrowia z dnia 12 listopada 2015 r. zmieniającego wyżej wymienione rozporządzenie (Dz. U. poz. 2040), jak też Obwieszczeniem Ministra Zdrowia z 3 kwietnia 2017 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Zdrowia w sprawie warunków bezpiecznego stosowania promieniowania jonizującego dla wszystkich rodzajów ekspozycji medycznej [In Polish].