**COVID-19 management: Adaptation and progressively increased dental activity**

**Background**

Based on the development of the epidemic in Denmark so far, as well as new prognosis for the further development of the epidemic, the epidemic with COVID-19 is expected to have a longer-term course. The new scenario is a process in which we are expected to deal with COVID-19 in the health care system over a longer time horizon, in parallel with the fact that we must also be able to treat patients for other conditions more and more.

On April 13, 2020, the Government entered into an agreement with the Danish Regions, KL (association of the Danish municipalities and PLO (Danish medical doctors) to initiate increased activity in the health service. This means that a restructuring of the health care system is now being initiated with a gradual increase in activity. Dental care, public as well as private, can therefore increase its activity to the usual level, however, with a focus on the overall considerations of minimizing the risk of spread of infection, including the continued use of various measures that have already been introduced. Telephone and video consultations should be used in dentistry where possible.

This guideline elaborates on increased care of dental services and applies to the entire public, municipal and regional dentistry as well as the private dentistry of practicing dentists, specialty dentists, dental hygienist and clinical dental technicians. This is a health-care guideline, and the described framework applies to all dental health professionals.

The implemented plan for transition and progressively increased activity in the healthcare system is described *in Management COVID-19: Plan for transition and gradually increased activity in the healthcare system is described in an independent note* that forms the basis for this guide.

This guideline replaces COVID-19 Management: Carrying out critical dental care related to COVID-19 epidemics.

The guideline has been drawn up in collaboration with the Danish Agency for Patient Safety and the State Serum Institute, and with contributions from dental associations and specialist associations and dental professionals

**Efforts in dentistry**

As a general rule dental care must increase the scope of all ordinary dental care activities. Thus, dental care must resume regular diagnostic examinations, monitoring, prevention and treating dental care for the population.

The starting point for a progressively increased activity in dentistry must continue to be based on a dual approach to both generally reducing the spread of infection in the community and, more specifically, to reduce the risk of infection for the individual patient and the healthcare professional. Another key consideration is that a specific and individual dental professional assessment is made of the patient / citizen's need for a dental care (examination, treatment, etc.).

In each dental assessment, the focus should be on whether the dental work can be postponed over a longer time horizon without affecting morbidity.

The assessment may also include:

• the severity and difficulty of the disease / condition

• the risk of exacerbating the disease if you do not treat, including if there is a risk of increased drug consumption as a result of this

• the risk of the disease / condition becoming chronic if it is not treated on a horizon over a few months

• impact on quality of life

• impact on functionality and / or employability

Group action should not continue to be prioritized on the background of a desire to reduce the extent of social contacts and thereby reduce the risk of transmission of infection in society.

The provision of an increased scope of dental care must be carried out provided that the dental care follows the instructions in the section relating to dental care. "Minimizing the risk of infection when performing dental care in the guideline".

Here, attention should be paid to the general rules for planning with fewer attendance times, which will result in a lower daily flow of patients in the clinic than before the epidemic.

Patients with respiratory symptoms where COVID-19 may be suspected, or patients with proven COVID-19 should not be treated in the dental office but should be referred to the hospital in urgent need. Reference is not made to Dental, Oral and Oral Surgery Departments for the treatment of treatments that are usually performed in the primary sector which are not critical. In this case, the patient can be seen when he or she has been symptom-free for 48 hours.

**Minimizing the risk of infection when performing dental care**

**General rules**

Efforts in dental care must always be taken with regard to minimize the risk of spread of infection, cf. the general recommended advice on good hand hygiene and 1-2 meters distance to others, not least in relation to minimizing the spread of infection to patients belonging to the risk groups. These are described in Guidelines for the Management of COVID-19 in Health Care.

In addition to the above, a number of measures must be implemented by all parties to reduce the incidence of all people entering healthcare, including public and private dentistry:

• Information when booking consultations for not showing up by symptoms of COVID-19 (fever, cough, sore throat, headache and muscle soreness, which by some people may be accompanied by nasal symptoms).  Also information on entrance door to clinic etc.

• Minimizing the risk of infection spread in the waiting room, etc. by arranging with minimum one meter distance between seating, removing newspapers, magazines, toys, beverages from common jugs, etc., focus on frequent and thorough cleaning, access to hand disinfection in waiting room if possible and requesting patients on general good hand hygiene, etc. .

• Promote appropriate behavior by having the poster: 'New coronavirus - protect yourself and others' at the clinic door / waiting room.

• Plan with fewer attendance times (“book with air in between”) so that the number of patients in the waiting room at the same time is reduced. It is not enough to switch between multiple treatment rooms.

• As far as possible, all contacts must be visited by telephone. It is essential that there is easy access to telephone contact with the dentist and there may be a need to extend telephone time. Electronic scheduling must not be possible.

The dentist should pay special attention to his or her own symptoms and stay home or be sent home immediately with symptoms of COVID-19 (fever, cough, sore throat, headache and muscle soreness, which may be accompanied by nasal symptoms). Dental care professionals may only meet again for work from 48 hours after symptom relief. Personnel with mild respiratory symptoms may be tested by their own physician or medical officer.

**Aerosol generating procedures in dentistry**

National Infection Hygiene Guidelines (NIR) for dental clinics must be adhered to and the focus should be on cleaning and disinfection.

COVID-19 spreads by drop contamination, and dental treatment poses a special infection risk, with close contact between the therapist and the patient, not least during aerosol-generating procedures.

Aerosols are formed by procedures using instruments with water and air, for example, air rotor, turbine, ultrasonic cleaning and three-function syringe. Aerosols from dental treatment can

in addition to water contain microorganisms (e.g., bacteria, viruses) and blood and can stay afloat for longer and spread over several meters. Drops and droplets can also land on equipment, fixtures and other surfaces and give rise to indirect contact contamination.

Based on a precautionary principle, the National Board of Health finds that the dentisl and the dental hygienist should limit aerosol-generating procedures, including the use of air rotor, turbine, micromotors, ultrasonic cleaning and three-function syringe, when performing dental treatment and examinations under COVID-19.

The use of a three-function syringe must, as far as possible, be limited and drying can be achieved by effective saliva extraction, where the dent uses dental auxiliaries and the use of cotton wool etc.

Some dental services such as filling therapy and root treatment necessitate the use of an air-rotor, turbine, micromotors. In these procedures, effective saliva suction should be used while using auxiliary and rubberdam when it is technically feasible. Upon completion of treatment, the treatment room should be briefly ventilated before the next patient.

Since aerosols are also formed using ultrasound, dental cleaning should be done with hand instruments instead of ultrasound.

**Dental protective equipment**

National Infection Hygiene Guidelines (NIR) for dental clinics must be adhered to and the focus should be on the proper use of possible protective equipment. Both dentist, dental hygienist and clinical dental technician as well as the chairside assistant must use the same protective equipment as described below.

**Clothing**

For aerosol-generating procedures, as an additional precautionary measure, disposable long-sleeve disposable coat and long-sleeve cuff / disposable apron should be used. In case of supply difficulties, disposable plastic aprons covering the neck can be used over the clinic dress. If disposable plastic apron is not available, it can be changed to clean clinic clothes after each patient. The clinic clothes are washed as specified in NIR for dental clinics, if applicable at the laundry. Instructions can be prepared locally for the removal of clinic clothes, if applicable a short video sequence.

**Face and eye protection**

Medical masks (surgical masks!)  are used and eye protection in the form of glasses or visors. Visors or glasses can be for multiple use and are cleaned and disinfected (according to the manufacturer's instructions) between each patient. In case of supply difficulties, full-face visors can be used alone (except for surgical procedures). Ordinary glasses and magnifying glasses can be used if designed for protection.

Medical masks should be tight-fitting and cover nose and mouth. The mask must retain at least 98% of microorganisms (type II) but does not have to be R type (cf. requirements specification specified in DS / EN 14683). (*my comment: this means that the use of FFP2 of FFP3 are not prescribed or mandatory, we are talking about the standard surgical mask MNS)*  As masks become leaky when moistened, they must be changed regularly and always after each patient.

**Start-up of water systems / dental units**

To minimize the risk of infection with Legionella, attention should be paid to flushing water systems / dental units, when re-opening dental clinics.

**Special conditions regarding care of dental patients during the COVID-19 epidemic**

**Special risk groups**

It is expected that some of the citizens in need of dental care will be citizens at risk of severe disease with COVID-19. Based on a precautionary principle, special attention should be paid to the fact that patients belonging to a risk group for COVID-19 are not scheduled for examination or treatment in treatment rooms where aerosol-forming procedures have just been performed.

**Dental treatment of children and adolescents with Midazolam and nitrous oxide**

For dental treatment of children and adolescents under COVID-19 who have no symptoms of infection or are infected with COVID-19  Midazolam may be used if “Procedural description in relation to awake sedation with Midazolam and Triazolam in conjunction with dental treatment Action on children and young people with significant cooperation problems, 4th edition 18 August 2015 Prepared by ATO's Executive Board ” to be followed. Particular attention is paid to conditions described in chapter 1.5: The state of health of the child and the young person, page 6, and chapter 2.1.2.2 Contraindication: Any type of acute illness, page 13.

In dental treatment of children and adolescents under COVID-19 who have no symptoms of infection or are infected with COVID-19, nitrous oxide may be used provided that the hoses must always be re-treated properly with cleaning and disinfection. Disinfection with heat is preferred. Alternatively, if possible, disposable hoses may be used.

**Dental care for citizens in their own homes**

In dental care that takes place in the citizen's home, the focus must be on infection-reducing measures:

The patients are asked about symptoms of Covid 19 at arrival and by 1-2 meters distance.

Correct hand cleaning and disinfection.

All contact surfaces (eg tabletop) in the citizen's home are cleaned before leaving the home.

When transporting between home visits, contact surfaces in the car, including steering wheel, gear lever and handbrake (for bicycles handlebar and saddle) must be disinfected after each visit

**Prescribing: prescription of antibiotics and painkillers without physical consultation.**

Dentists may under COVID 19 deviate from in-person attendance and in accordance with their own authorization area, and after a specific and individual telephone assessment of the patient, prescribe

1. Painkillers for short-term treatment (up to a couple of weeks in minimum packs), where milder preparations prior to prescription have not proved sufficiently painful

2. Prescribe antibiotics where it is obvious that infection is not due to any other disease that falls within the medical field