

STERILIZATION AND DISINFECTION IN A PRIVATE CLINIC

M. A. Rahim

Aga Khan Hospital, Dar es Salaam,
Tanzania

Introduction

There is documented evidence that disease can be transmitted in dental practice (1). Hence careful measures of infection control in the daily routine in dental practice must be applied. Since many patients cannot easily be recognized as carrier of pathogens, stringent precautions should be followed in the treatment of each patient in order to reduce the risks of cross-infection.

This paper aims to describe and explain the preventive measures taken to minimize cross-infection in the daily routine of a private dental clinic.

Situation

The dental clinic is one of the speciality units of the Aga Khan Hospital. It renders both curative and preventive services. An average of 25 patients are seen daily. A morning session for emergency treatment and an afternoon session for restorative and operative procedures on appointment basis. As the clinic operates on two sessions, hygienic procedures in the infection control differ slightly between the morning and the afternoon session.

Morning session

At the beginning of the morning session the floor of the surgery is swept and mopped with dettol containing solution. Other surfaces in the surgery are cleaned with a dry towel.

All emergency cases are attended one at a time. Latex disposable sterile gloves are used by the dentist and the assistant. After each patient the gloves, while still on hands, are cleaned with ordinary soap under running tap water. As the gloves have smooth surfaces, washing has proved to be a relatively effective method of removing most microorganisms (2). In case of a very invasive procedure such as the removal of an impacted tooth, a new pair of gloves is used

for the next patient.

Oral examination is done with a mirror and probe. The mirror is then washed under the tap water and disinfected in 'V3 sterilizing' fluid concentrate. The probe is placed in a tray with dettol solution awaiting more instruments ready for heat sterilization.

If an extraction is indicated, disposable needles and syringes are used only once per patient. The operator wears a mask and gloves. The extraction forceps has been heat sterilized (autoclave) and is stored with the tip immersed in a tray with dettol solution. After use the forceps is thoroughly domestic cleaned with a brush under running tap water and then placed in a container with dettol solution awaiting more instruments ready for heat sterilization. Used gauze, cotton rolls and other disposable material are discarded in a steel bowl which is covered with a tissue napkin. New tissue napkins are placed on the working surface for instruments after each patient.

In principle when there are enough used instruments for a sterilization charge, the autoclave is loaded and the instruments sterilized for 20 minutes at 120° C. Since the autoclave is currently out of order, instruments are now heat disinfected in a boiling water bath for 20 minutes.

Denture impressions are also taken in the morning sessions and sent to the dental technician for further handling. The metal impression trays are cleaned with 'Elma clean' and 'Nusonics solution' before re-use.

At the end of the morning session, all the surfaces and standing equipment, such as chair, cabinets, x ray-equipment are sprayed with V3 disinfectant spray and left to dry. The operator uses 'Hibisol solution' and rubs the hands thoroughly until dry. The room is swept, but not mopped.

Afternoon session

Protective glasses are worn additionally to the gloves and facemask, when cavity preparation is being performed. The handpiece is wiped with 70% alcohol after use and placed in 'Certosept universal medium' for cleaning and lubrication. Thereafter handpieces are placed in 'V3 solution' for 10 minutes. The burs are mechanically cleaned with a steel brush and then placed in 'V3 solution' for 10 minutes.

Root canal instruments after use are cleaned with 70% alcohol and 3% H₂ O₂ solution to remove organic debris and are then placed in the glass bead sterilizer for 5 minutes.

Scaling is done by the ultrasonic scaler. After use the tips are cleaned and placed in 'Nusonics solution' to remove organic debris after which the tips are boiled for 20 minutes.

Restorative instruments are domestic cleaned after each patient and then heat disinfected in boiling water for 20 minutes (autoclave is out of order). They are stored in closed dry trays.

At the end of the day, surfaces in the surgery are sprayed with V3 spray. Hands are washed

with Hibisol. Trays are covered with plastic napkins.

Conclusion

The dental clinic in the Aga Khan Hospital tries to attain maximum sterility and disinfection during dental procedures. Negligence of infection control can effect the health of both patients and operatory staff. The patients should have faith and be assured of safety precautions during dental procedures. It is the dentist as the first responsible professional in the dental clinic to act according to the medical ethics. He has to supervise all aspects in the clinic to ensure proper infection control.

References

1. Van Palenstein Helderman WH 1992. Routes of transmission of diseases in dental practice. This issue.
2. Mitchell R, Cumming GT, MacIennon WO, Ross PW, Peutherer JF, Baxter PMK 1983. The use of operating gloves in dental practice. Brit Dent J 154, 372-374.