

SOP 12 Care of Dental Suction Systems

Recent research (Boyle et al., 2015) has shown that conventional aspiration disinfection without disassembly of the suction handpieces (i.e. the part which is attached to the suction tubing/holds the disposable suction tips/regulates the suction volume), results in inadequate cleaning and disinfection of the suction system components. This inadequate decontamination leaves significant reservoirs of microbial contamination in suction hoses, filters and suction handpieces. Thus, there is a risk of cross-contamination and cross-infection from dental suction systems.

The risk is greater for immunocompromised as opposed to immunocompetent persons. For these reasons, dental suction systems have to be effectively decontaminated.

CDC has confirmed that under certain operating conditions there is a potential risk of backflow due to pressure changes that can cause suctioned fluids to be retracted into the patient's mouth. Furthermore, contamination on the internal surfaces of suction handpieces can leak contaminated fluids to the exterior, especially around suction strength regulator valves. Handling such handpieces can transfer contamination to the gloved hands of dental staff.

Dental healthcare personnel should be aware that backflow might occur in the following situations and take measures to avoid this:

- When they use a saliva ejector holding the tubing above the patient's head
- When patients close their lips and form a seal around the tip of the ejector that creates a partial vacuum
- When the saliva ejector is used at the same time as other evacuation (high volume) equipment

12.1 Procedure for Suction System Cleaning

At the start of the day

- Perform hand hygiene and don gloves.
- The suction tubes should be flushed first thing in the morning with a cup of water to flush the disinfectant through from the previous application.

After each patient

- Remove the disposable aspirating tip and the barrier after use and dispose of in healthcare risk waste.
- All suction tubes, when used, should be flushed after each patient with a cup of water.
- Suction handpieces and suction holder should be wiped with approved surface disinfectant.
- Remove gloves and perform hand hygiene. Place new barriers and aspirating tips

After each session

- Each surgery will need a minimum of 3 sets of suction handpieces to ensure service delivery is unaffected.
- Remove suction handpiece which contain a volume regulator having run approved disinfectant through system, disassemble, clean, decontaminate, sterilise and reassemble as per RIMD.
- Care should be taken to reassemble suction handpieces correctly. Prior to this, suction handpiece o-rings should be inspected and replaced if worn or damaged. Damaged o-rings will cause suction handpieces to leak aspirated fluids. O-rings should be periodically lubricated with an appropriate lubricant (silicone).
- Smooth bore suction handpiece without volume regulators are adequately cleaned by aspiration disinfection or according to manufacturer's instructions.

End of the day

- The tubes should be flushed with an appropriate disinfectant at the end of the day and after any particularly bloody procedure.
- The effectiveness of the suction is greatly enhanced by ensuring filters are clean. Filters should be cleaned at the end of the day after disinfection of the suction system. Suction filters should be cleaned according to manufacturer's instructions. Suction filters should be changed if torn or damaged.
- Amalgam trapped in the amalgam filter must be disposed of appropriately in amalgam waste container.
- It is imperative that solutions containing sodium hypochlorite or any foaming detergents are not used to disinfect suction units.
- Flush approved disinfectant solution through the suction handpiece which contains a volume regulator.
- Disassemble suction adaptors, clean, decontaminate, sterilise and reassemble as per RIMD.
- Care should be taken to reassemble suction handpieces correctly. Prior to this, suction handpiece o-rings should be inspected and replaced if worn or damaged.
- Smooth bore suction handpiece without volume regulators are adequately cleaned by aspiration disinfection or according to manufacturer's instructions.
- Dental suction motors must be turned off when the surgery is not in use.
- Worn, damaged or clogged suction tubing should be replaced.

End of life suction motors

- Staff members need to arrange that the waste amalgam is collected by the appropriate waste disposal company, the unit must be disinfected with the appropriate disinfectant prior to disposal by the supplier.