Maintaining Equipment and Instruments

Introduction

In most dental practices, the clinical staff—including dental assistants—is responsible for the care of the clinical areas, which helps ensure smooth and effective patient care throughout the day. This covers the steps for opening and closing and the maintenance of equipment and instruments.

Morning and Evening Routines

Opening the Office

- Arrive at least 30 minutes prior to the first scheduled patient to allow sufficient time to complete all required morning tasks.
- Turn on the master switches for the central air compressor, vacuum units, dental units, and x-ray machines.
- Flush water lines for several minutes (longer after weekends).
- Make sure each operatory is ready for patient care, and set up the treatment area for the first scheduled patient.
- Review the day’s appointment schedule to ensure the availability of all the necessary instruments, patient records, x-rays, and laboratory cases.

Closing the Office

- Wear appropriate personal protective equipment (PPE) when emptying trash cans and replace with fresh plastic liners.
- Turn off all equipment and ensure each operatory is adequately stocked for the next day.

Wearing PPE and the proper handling of contaminated PPE are important aspects of safety and exposure control!
Post next-day appointment schedules in each operatory. Review these schedules to ensure the availability of patient records, instruments, and lab work.

- If required, process any remaining contaminated instruments and clean the sterilization area.
- Place soiled PPE into designated containers.

**Maintaining Clinical Equipment and Instruments**

**Routine Care**

The maintenance of dental equipment and instruments is an important skill for dental assistants. This not only helps extend the life of these delicate, complex, and expensive items, it helps to mitigate the possibility of sudden and unexpected problems—which can wreck havoc on patient care and scheduling.

A “first-aid” kit for basic and routine maintenance might include handpiece lubricant and cleaners; air compressor oil and intake valves; vacuum intake filters; and spare handpiece bur tools, various lightbulbs, O-rings, and gaskets. Each dental practice has different needs that will entail including different types of items in these first-aid maintenance kits.

**Placing Service Calls**

When equipment maintenance goes beyond the routine, contact a professional service technician. These highly trained individuals can install, troubleshoot, and repair equipment that may be exhibiting unusual sounds, behaviors, and/or discoloration.

### Clinical Dental Equipment

- This includes the patient dental chair, operator’s stool, dental assistant’s stool, curing light, oral evacuation system, amalgamator (mechanically mixes dental materials), radiography unit, and dental unit.
- Each dental unit has a rheostat to operate and control the speed of handpieces, water lines, an air-water syringe, and operating light.
- Other major pieces of equipment include the central vacuum compressor and the central air compressor.

**Maintaining Equipment**

Follow manufacturer’s instructions for properly maintaining equipment. For example, this can include:

- **Oral evacuation system:** Run a suction cleaner or replace delivery unit traps daily. Check and replace o-rings and disassemble and lubricate valves weekly.
Emergency oxygen and nitrous oxide systems: Check the rubber aspects monthly for signs of deterioration.

X-ray equipment: Inspect, calibrate, and have certified yearly.

Central vacuum compressor: Service regularly, following manufacturer’s instructions.

Central air compressor: Service regularly, following manufacturer’s instructions. In addition, change disposable traps weekly.

Waterlines: Flush for 20 to 30 seconds between patients to eliminate materials retracted from previous patients.

Maintaining Instruments

To extend the life of dental instruments, follow manufacturers’ recommendations for caring, sterilizing (covered in Lesson 12), and maintenance. This can include:

- lubricating instruments after each use
- checking and replacing o-rings and gaskets on handpieces
- inspecting instruments for corrosion, dullness, wearing, or broken blades
- sharpening instruments at the first sign of dullness

Clinical Dental Instruments

- This includes instruments for examination, cutting, and restorative purposes.
- These also include low-speed and high-speed handpieces and rotary cutting instruments.