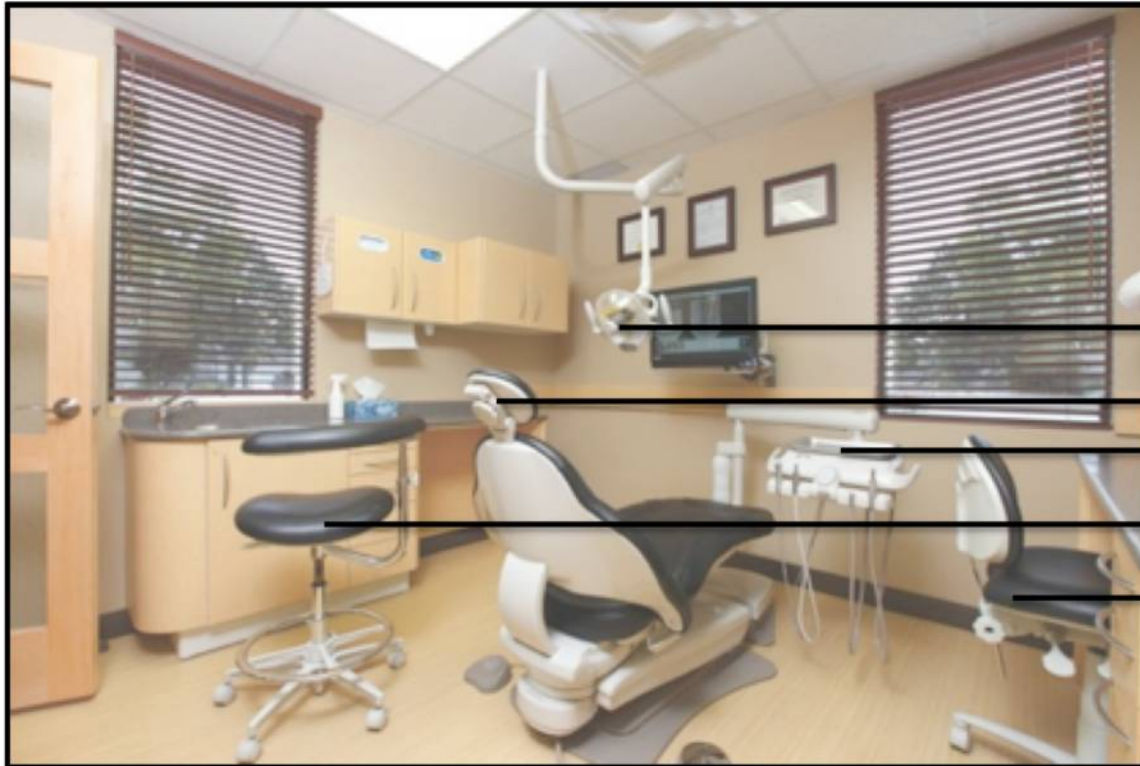


# Identify equipment used in dental unit and dental lab



1. dental light
2. dental chair
3. dental treatment unit
4. operator chair
5. assistant chair

13.5.1 Identify equipment used in dental unit and dental laboratory  
Unit B 13.5 Maintaining dental and dental laboratory equipment  
Module 279 18 B Medical Instrumentation I

# Dental: General Introduction

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**Dentistry** is the branch of medicine that is involved in the study, diagnosis, prevention, and treatment of diseases, disorders and conditions of the oral cavity and of adjacent and related structures and tissues in the jaw and facial area.

Dentistry is widely considered important for overall health. Dental treatment is carried out by the dental team, which often consists of a dentist and dental auxiliaries (dental assistants, dental hygienists, dental technicians, and dental therapists). Most dentists work in private practices (primary care), although some work in hospitals (secondary care).

The history of dentistry is almost as ancient as the history of humanity and civilization with the earliest evidence dating from 7000BC. Pre-historic dental surgical techniques are seen in Ancient Egypt.



# Dental: General Introduction

Oral diseases are major public health problems due to their high incidence and prevalence across the globe.

The majority of dental treatments are carried out to prevent or treat the two most common **oral diseases** which are

- **dental caries** (tooth decay)
- **periodontal disease** (gum disease)



Common treatments involve the restoration of teeth, extraction or surgical removal of teeth, scaling and root planing and endodontic root canal treatment.

Conditions in the oral cavity may be indicative of systemic diseases such as **osteoporosis, diabetes, or cancer**.

# Dental General Introduction

A dental restoration or dental filling is a **dental restorative material** used to restore the function, integrity and **morphology** of missing tooth structure. The structural loss typically results from **caries** or external trauma.

## Dental Filling



## Video

**Dental units** refer to the space where dentists examine, manipulate, restore and remove teeth and surrounding oral structures.

# Dental Chair

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## Function

- support the patient in comfortable positions
- allow the dentist to position the chair
- allow accessibility to the mouth of the patient

## Use

- By dentists, dental hygienists and dental technicians
- to support and position their patients during examination, treatment or cleaning of their patient teeth.

# Dental Light

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The function of a dental light is to deliver ‘**reduced shadow**’, **white** light one needs to properly match shades, identify details and diagnose tissue in the dental practice.

The **position** and **intensity** of the light can be controlled by the user.

# Dental Treatment Unit

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A dental treatment unit, is a **utility outlet and stand-by tool** for dentists which provides:

- tools used by the dentist (drills, etc. )
- delivery of water, air and suction to the patient;
- the removal of expectorated waste (spit) and foreign matter from the patient's mouth.



# Dental Amalgamator

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Amalgamators are used to form amalgam fillings (containing mercury) to fill cavities in teeth.



# Dental Amalgam Separator

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Most dental offices currently use some type of basic filtration system to reduce the amount of **mercury solids** passing into the sewer system. The installation of a good amalgam separator system reduces amalgam waste entering the sanitary system with up to 99.9%.



# Dental Polymerization unit

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A dental Polymerisation unit or **Curing light** is used for polymerisation (hardening) of light-cure-resin-based composites, used for filling cavities in a tooth.



# Dental Drill

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Dental drills (or “handpieces”) are air-powered or electrically powered rotary instruments that are used to cut or polish teeth. A clinic needs both **high-speed** handpieces and **low-speed** handpieces for general dentistry



# Dental Furnace

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Used during the production of ceramic dental restorations such as crowns, bridges and inlays, dental ceramic ovens **employ high temperatures and pressures** to process ceramic materials into a hardened, final state.



# Dental equipment expected life times

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The estimates were developed by the Veterans Administration and the US Army.

Dental Chair	15 years
Operating Stool	15 years
Dental Handpiece (drill)	3 years
X-ray unit	5 years
Ultrasonic cleaner	10 years
Autoclave	10 years
Cabinets	15 years
Dental Units	10 years
Air Compressor	12 years
Vacuum System	10 years

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# END

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