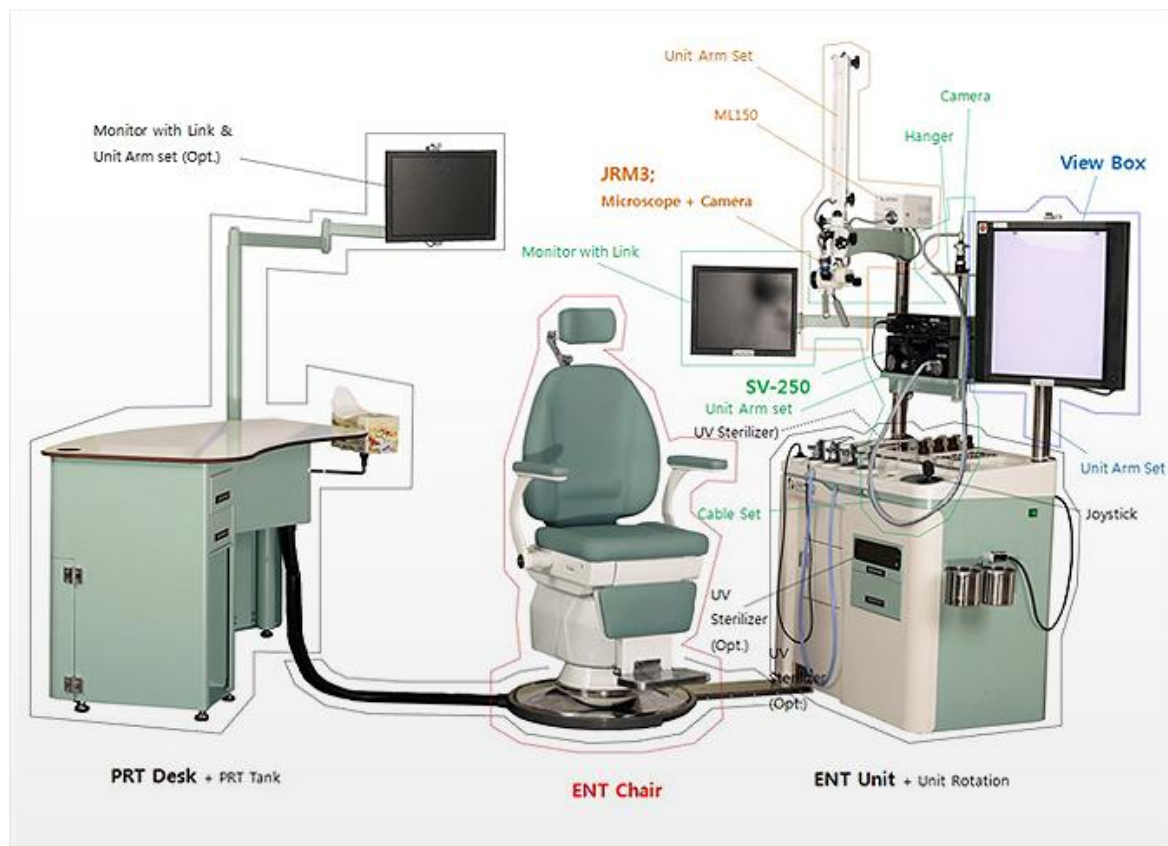




Ear, Nose, Throat "ENT" Chair



ENT Chair is a medical "therapeutic & diagnostic" device consist of many units that enable doctor for better ENT exam.



The following units are found in ENT Chair:

1- Euroscope unit (Otoscope):

Used for external ear exam. It contains:

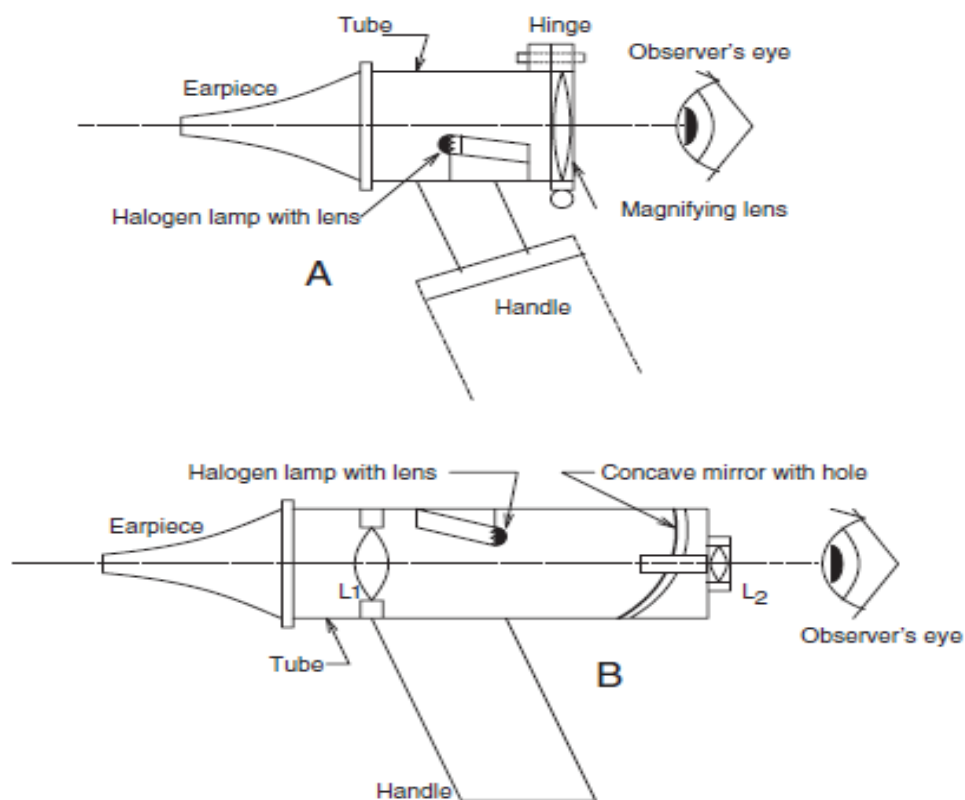
Holder (hand piece), source of light, lens, on/off power switch, and different cones adaptors; some of euroscope have *external connection for suction* (used for removing blood, pus, fluid, from external ear).

The otoscope allows the examining physician to observe the condition of the outer surface of the eardrum and the lining of the external auditory canal. Like the basic ophthalmoscope, it is a hand-held instrument viewed by one eye of the clinician.



Figure 1 (A) shows a cross-sectional view of a conventional otoscope. A miniature high-intensity halogen lamp with a built-in lens is used as the source, and a convex (magnifying) lens is used by the operator to enlarge the view of the eardrum. The earpieces are disposable and come in various sizes to fit the patient's ear canal diameter. Figure 1 (B) shows an otoscope with coaxial illumination (analogous to an ophthalmoscope); the rays from the halogen lamp are collected by a concave mirror and focused on the eardrum by lens L1. L1 and L2 form a microscope, enlarging the normally illuminated object. Such a coaxial illumination system is used in the Hotchkiss otoscope.

The otoscope can be used to locate impacted cerumen (earwax) in the ear canal, as well as foreign objects (insects, beans, etc.). The otoscope is also useful in diagnosing middle-ear infection through eardrum color. Convexity can mean fluid pressure in the middle ear, and, of course, tears and perforations can signify trauma or infection. The coaxial design of the Hotchkiss otoscope is particularly well suited for observation of ear canal procedures as they are done (e.g., removing cerumen or foreign objects).



2- Suction unit:

Use for removing any discharge and foreign body from external ear. It consists from:

- Suction pump
- Pipes
- Holder (hand piece) with ear adaptor.

3-Washing unit:



**Al-Mustaqbal University / College of Engineering & Technology
Department (Medical Instrumentation Engineering Techniques)**

4th Class

Subject: Medical Instrumentation III

Lecturer: Lect.Dr. Amal Ibrahim Mahmood

2nd term – Lecture No. 11 & Lecture Name (ENT chair)



This unit provides fluid for ear washing to remove any discharge, Wax, and foreign body it consists from:

- Water pump - Pipes
- Water tank - Holder (hand piece) with ear adaptor.