

ORAL SURGERY 3<sup>rd</sup> grade  
**INSTRUMENTS FOR BASIC ORAL SURGERY II**

**6-Instruments for suturing:**

At the end of the procedure the mucoperiosteal flap must be returned back to its original place or position by sutures, the instruments used to do any suturing may include the followings:

**A-Needle holder**

the needle holder is an instrument with a locking handle device the handle is long and the beaks are short ,stout for intraoral suturing, a 15 cm handle length needle holder is often recommended the beaks of the needle holder are shorter and stronger than the beaks of the haemostat, the inner surface of the beaks is crosshatched to provide good surface for grasping of the needle and to prevent its rotation or movement during suturing while in haemostat the inner surface has parallel grooves which differentiates it from the needle holder, so haemostat should not be used for suturing but preserved for its original work to control bleeding during surgery.



## **B-Needles:**

Most sutures come fused to needles in a pre-sterilized package, suture needles differ according to the shape of their cross section and their length, there are generally two types:

**1-cutting needle**, have a triangular cross section

**2-taper point**, which are round or oval in cross section.

According to the shape of the needles, straight needles are only used where tissues or areas of surgery are easily accessible and therefore they are not used in oral cavity because of the limitation of space in oral cavity, so curved needles are mostly used of a length of 21-25 mm or 3/8 or 1/2 (half circle) and this design allows the needle to pass through the limited area of suturing easily, the cutting needle(triangular cross section ) also called *traumatic needle* but it has a good advantage of being able to enter the tissues easily during suturing specially in tout areas like mucoperiosteum of the hard palate( keratinized mucosa ) or skin where the tissue is difficult to penetrate the tapered needle is generally used for closing muscle or fascia that are easily penetrated.

## **C-Suture material:**

many types of suture materials are available and could be classified by size , resorb ability ,and whether or not they are monofilament or poly filament .Sutures are made of wide variety of materials and come in several sizes, each designed for a particular purpose

### **1-size**

Sutures are available in various sizes that range from one zero ( 1/0) to (1 1/0)eleven zero, increasing number of zeros means decreasing the suture diameter, the most size used in oral and maxillofacial surgery is size 3/0 and 4/0 ,the size of the suture usually expressed on the package e.g. 3/0 ,4/0, 2/0....the size 3/0 used most commonly in suturing oral mucosa, which is enough to prevent tearing of the oral mucosa and strong to withstand the tension placed on them intraorally.

### **2.Resorbability:**

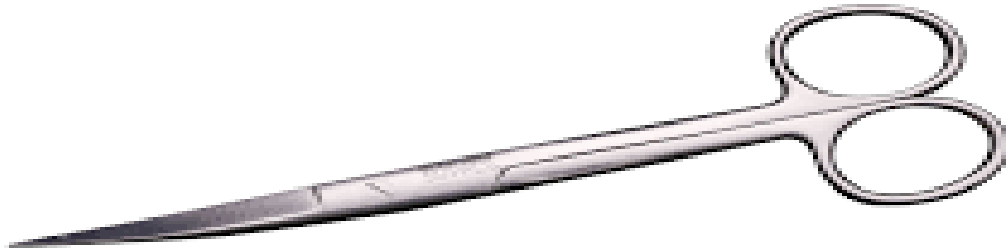
Sutures may be resorbable or non-resorbable, resorbable sutures are made of materials that the body is capable of easily breaking them down, like catgut sutures and this is used for suturing deep structures like muscles, fascia, so these sutures does not require removal, while non resorbable sutures like black silk sutures ,nylon, stainless steel, those need removal of the suture postoperatively..

For the resorbable sutures we have two types. Plain gut and chromic gut ,the plain gut is subjected to rapid resorption or digestion by the proteolytic enzymes produced by the inflammatory cells ,while the chromic catgut is treated with special chromic salts ,to provide resistance for the proteolytic enzymes.

**D-Scissors:-**

the final instrument necessary for placing sutures are suture scissors ,the suture scissor usually have long handles, short cutting edge or beaks because main purpose is to cut suture during suturing or on the removal of sutures postoperatively, other types of scissors used in oral surgery are called soft tissue scissors or operating scissors: these scissors are used for cutting of tissues and for dissection or undermining of tissues during surgery , we mainly have two types of operating scissors..

**I**-small,sharp,delicate ones used for fine work



2-blunt nosed scissors: used for undermining soft tissues as well as for

Blunt tissue scissors



notice that these operating scissors should not be used for cutting sutures or other material because these materials make them blunt ,and it became less effective for cutting tissues.

## **7-instruments for retraction of soft tissues:**

These instruments may be held by the surgeon or his assistant to help the surgeon to have a clear field or area during his work so that it will provide accessibility to the working field and in addition to that it will help in the protection of surrounding tissues from trauma or injury during surgery

There are many types and varieties of retractors ,that have been designed to retract the cheek ,tongue ,lips and mucoperiosteal flaps ,so we have ..

### **A-Cheek retractor:**

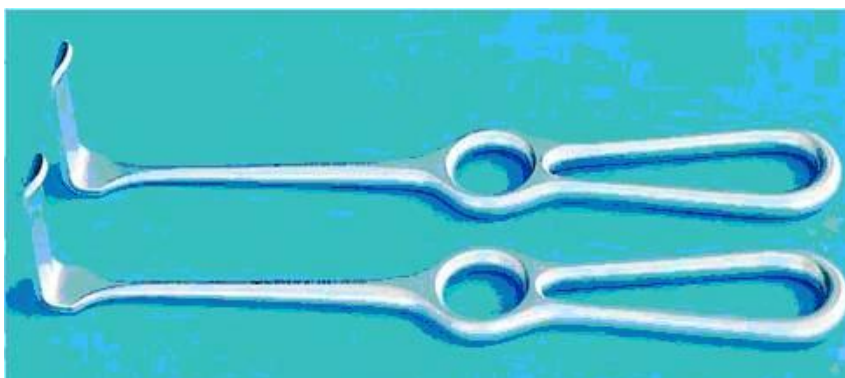
from its name its used to retract the cheek ,the most popular one is the *kilner retractor*, its double ended with different sizes and widths ,and it's held against or at the angle of the mouth ,to retract the cheek away from the operative area .

cheek retractors



### **B-Mucoperiosteal flap retractor:**

it is used to retract the flap away from the operative area ,to provide good vision for the surgeon and to help protect the flap from trauma ,it should be held against the bone and not on the flap ,there are many retractors of different shapes and designs especially made for flap retraction and even *periosteal elevator (Howarth 's )* may be used as a retractor for the flap ..



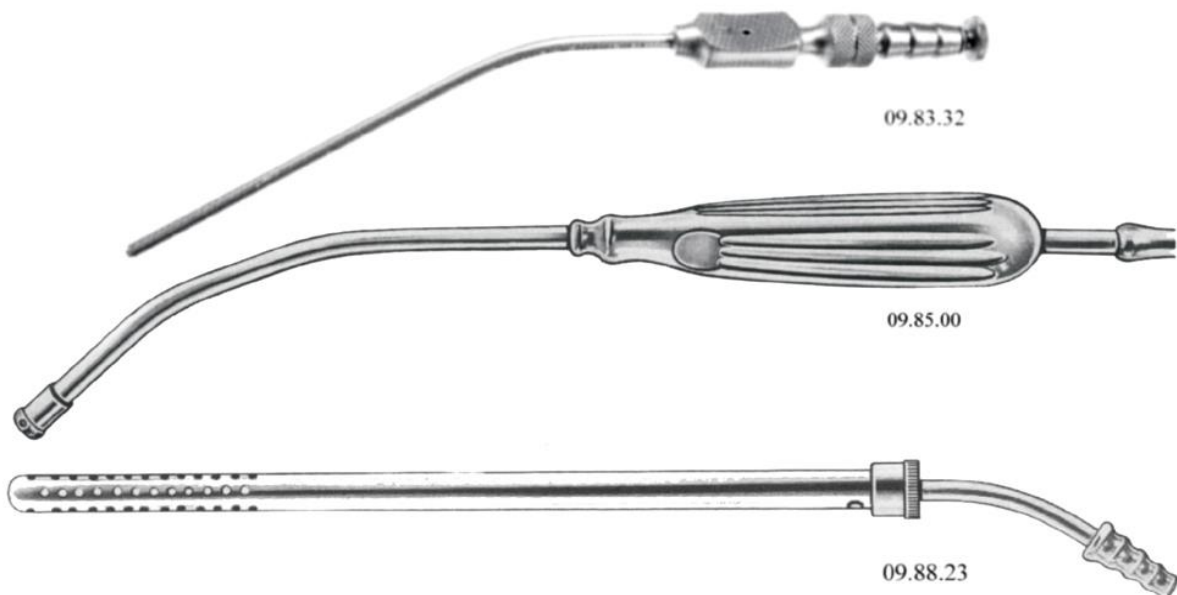
There is also special retractors for the tongue but usually the mouth mirror is the most common instrument used for tongue retraction and lip retraction



## 8-insrument for irrigation and suction

### A-instrument for suction:

These instruments used to provide good visualization of the operative field by aspirating the blood ,saliva and the irrigating solution (e.g. saline , distilled water) used during operation . in oral surgery a fine metal suction tips on vacuum pressure most used to perform such duty . the use of suction also is very important and most be used when we are working under general anaesthesia to prevent the possibility of aspiration of blood and other fluids by the patient.



**B-Instruments for irrigation:**

When we use hand piece and bur to remove bone its necessary to use irrigating solutions like normal saline to cool the bur and prevent bone damage by the heat generated during cutting of bone ,also irrigation will clean the area of surgery from small debris and chips during the surgical procedure and after finishing before suturing the area ,large plastic syringe with blunt 18 gauge needle is used for irrigation purposes ,the needle should be blunt and smooth so that no damage to the vital organs or soft tissues can occur ,the needle also preferable to be angled to have good and efficient direction of the irrigation fluid .

**Irrigation set:**

