



Elevators 2

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Clinical uses of elevators



- 1) Elevators are used to luxate and remove teeth which cannot be engaged or grasped by the beaks of forceps (e.g. impacted teeth, malposed teeth), also badly carious teeth, and teeth with heavy filling.
- 2) To remove old roots and fractured roots and sectioned roots.
- 3) To loosen teeth prior to use of forceps.
- 4) To split teeth which have had grooves cut in them, as in separation of roots.
- 5) To remove small amounts of bone to create point of application for the beaks of forceps, or removal of interseptal bone.
- 6) Any tooth resisting normal extraction force by extracting forceps.



Elevators commonly used:

1-Straight elevator

Elevator in which the blade, shank, and the handle are straight. The working blade or end is blind and round, there are many types and sizes of straight elevators,





2-Coupland's chisel (elevator)

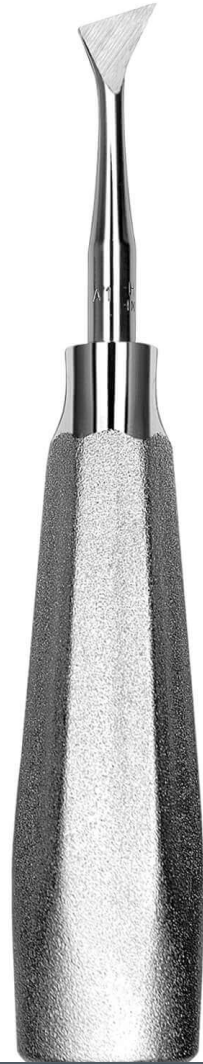
It is similar to straight elevator but the working end is sharp and straight cut, used for chiselling of bone to create point of application or to split of teeth. It's of different sizes, size 1, size 2, size 3. Depending on the width of the working end.





3-Cryer's elevators:

- In this type the working blades are sharp, pointed and triangular in shape just like a claw, forming an angle with the shank of the elevators. These are pair instrument mesial and distal (right & left) designed to fit the root surface on mesial and distal surface. It's mostly used for removal of retained root of the lower molar and for elevation for impacted teeth after surgical exposure of the bifurcation of the tooth.



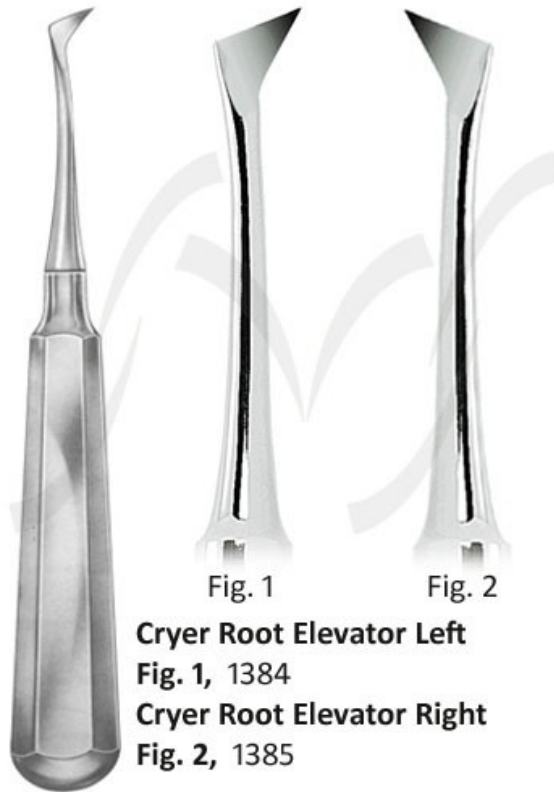


Fig. 1

Fig. 2

Cryer Root Elevator Left

Fig. 1, 1384

Cryer Root Elevator Right

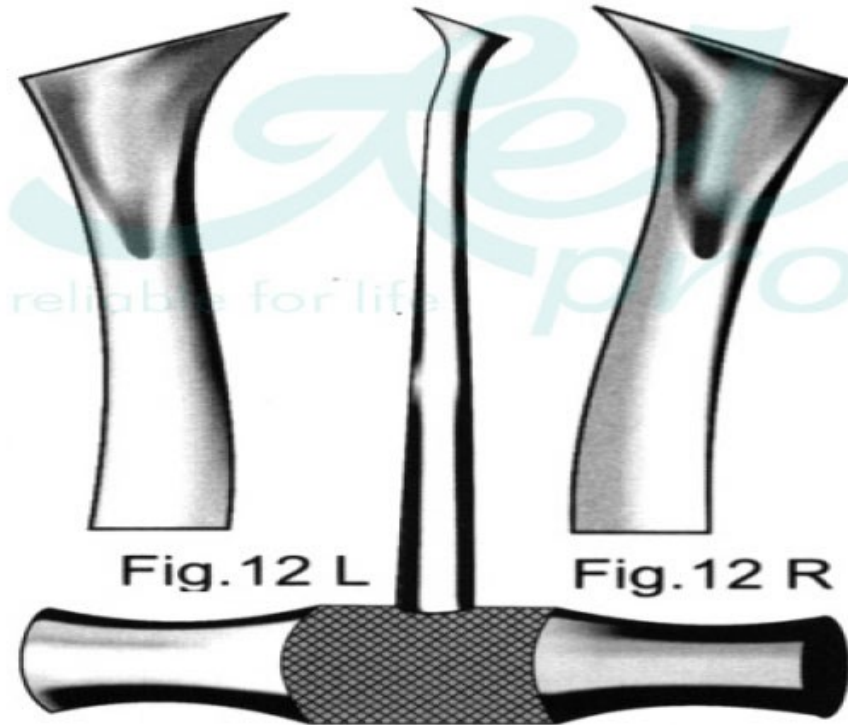
Fig. 2, 1385

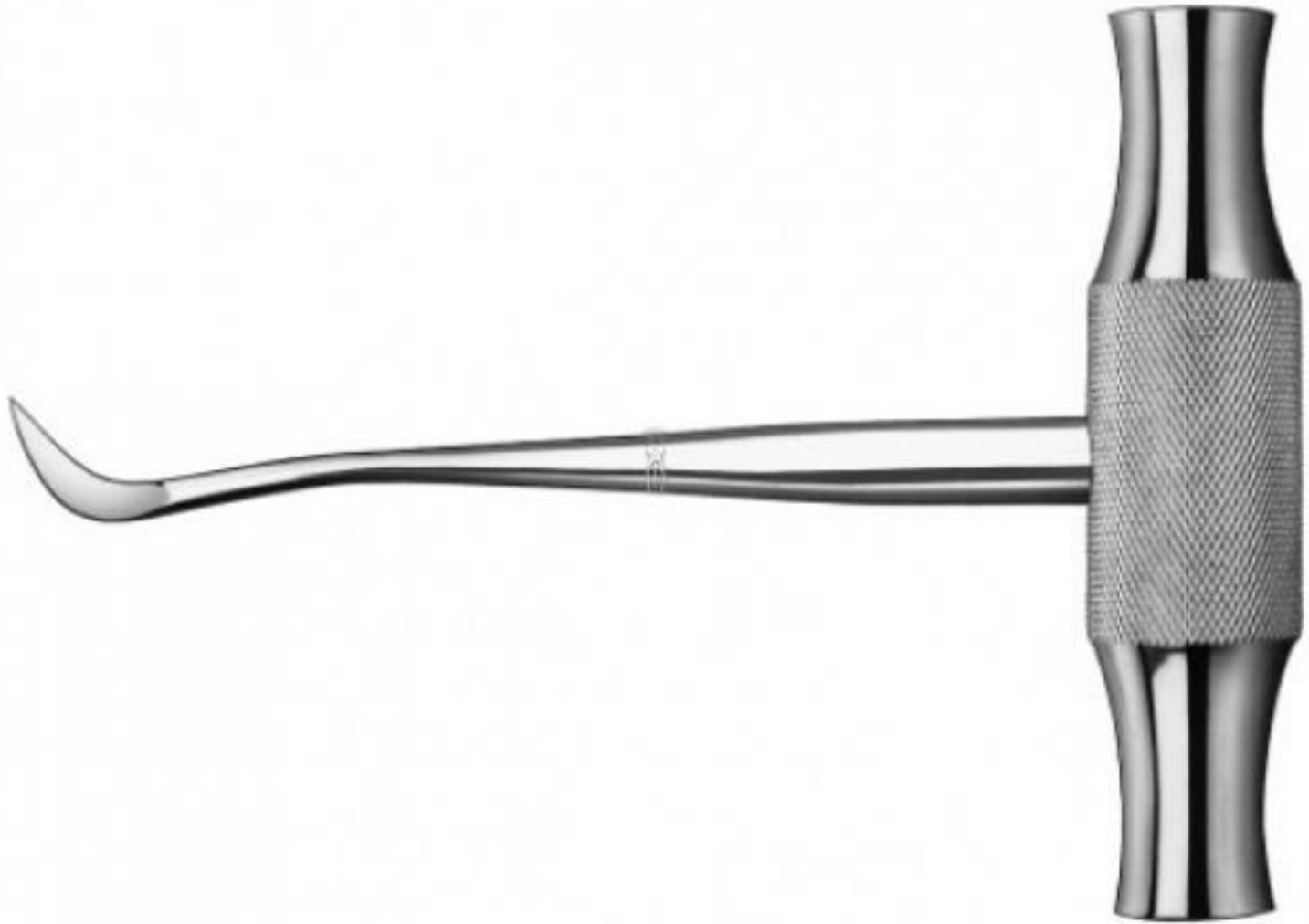
4. Winter's elevator:

- In which the working end is the same that of Cryer's elevator but the handle is in right angle to the shank so it is called winter's (T-bar) cross-bar handle elevator. Winter's elevators are very powerful generated (sufficient to fracture the mandible) so the use of this elevator should be with great care to avoid fracture of the jaw.it is commonly used in surgical removal of lower third molar tooth.

Winter Root Elevator Left Fig. 12 L , 1445

Winter Root Elevator Right Fig. 12 R , 1446







5- Apexo elevators:

The working blade is long, the margins are sharp, we have 3 Apexo, 2 angled and 1 straight (mesial, distal, straight). The blade forming an angle with the shank, this elevator is used mainly for removal of apical fragments of root deeply present in the socket of the lower jaw especially molars. We push it between the socket and the root to loosen the fractured tip and remove it from the socket.

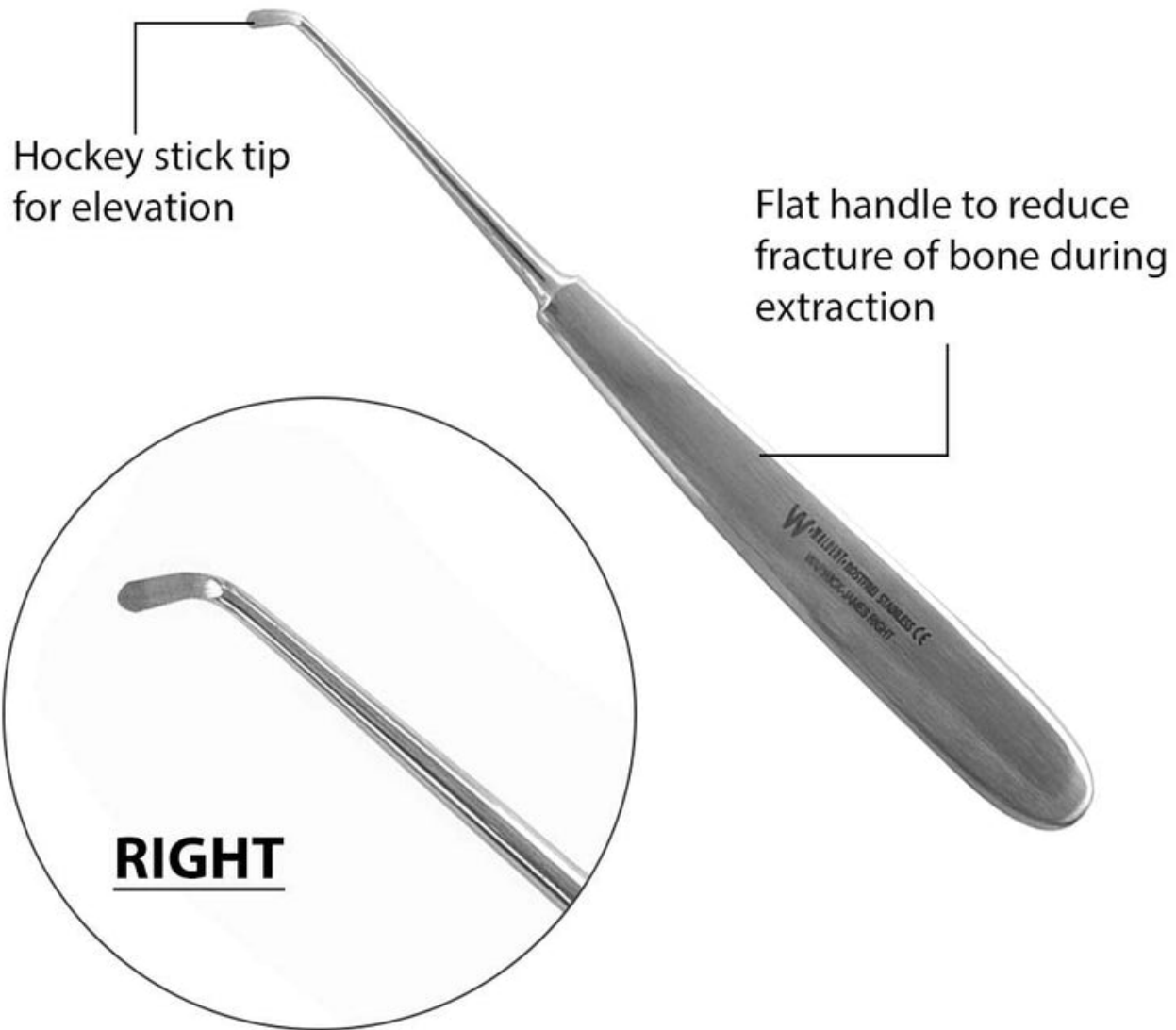






6-War-wick James elevators:

- It is a light duty elevator. It's like Cryer's elevator, also we have two angled (mesial and distal) and one straight. The blade is short and the end is rounded and the handle is flattened, it's used for extraction of retained roots, deciduous teeth, anterior lower teeth extraction, and where there is less resistance area e.g. extraction of upper wisdom tooth.



Set of 3 PCS Warwick-James Elevators

Warwick-James Right 2.2mm



Warwick-James Straight 2.2mm



Warwick-James Left 2.2mm






Guiding principles for use of elevators

- The following rules should be observed when using elevators in general:
 - 1- Never use an adjacent tooth as a fulcrum, unless that tooth to be extracted itself in the same visit, and the fulcrum should always be bony one (alveolar bone).
 - 2- An elevator should always be supported to avoid slippage and injury to the patient
 - 3- Avoid the use of excessive force if the tooth/root is resist luxation, by gentle rotation, then stop, look for the obstruction for elevation and deal with it.
 - 4- The direction of force should be such that the roots are not directed toward major structures such as the maxillary antrum especially in old age patient.
 - 5- An elevator should never be used "blindly" in the socket.
 - 6- If an application point is not present, then this should be created by careful removal of bone.
 - 7-Elevators should always be sterile and sharp.
 - 8- The sharp edges of the working blades are placed between the alveolus and the root surface and gently rotated apically along the long axis of the elevator to luxate or displacing the tooth or root.



Complications of use of elevators

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- **1. Injury to the soft tissues**, like injury to the tongue, floor of the mouth, soft and hard palate, caused by slipping of elevator during its use.
 - **2- Wrong application of force or excessive force** may lead to fracture of jaw especially the lower jaw at the angle of the mandible, also excessive force may lead to crushing of the alveolar bone and fragmentation
 - **3. Fracture of maxillary tuberosity** especially in extraction of upper third molars.
 - **4. Uncontrolled force** may lead to displacement of roots into maxillary sinus, infratemporal fossa, buccal soft tissue, submandibular space or inferior dental canal.
 - **5. Use of elevator in periapical area of abscessed tooth** may cause spread of infection to the surrounding tissue.
 - **6. Tip of instrument (working blade) may be fractured** and remain in the socket causing postoperative infection or delay healing, so always check the tip of instrument after use.



Thank you