

Selecting Forceps

Video Transcript

It is important to select the appropriate type of thumb forceps for the task at hand. One of the main differences between thumb forceps relates to the teeth on the end of the instrument. Some forceps have no teeth, while others have rat teeth or multiple rows of fine teeth.

Forceps used to handle tissue usually have serrations with a “positive profile” to assist in grasping tissue. In contrast, dressing forceps, used during bandage material application or removal in wounds, have a “negative profile” to their serrations and may or may not have teeth at the tips.

With tissue forceps, the size and configuration of the teeth dictates their surgical application. In tough tissue, such as fascia, the Adson forceps have interdigitating rat teeth that allow a secure, non-slip grasp. The rat tooth causes small but deep marks in fascia; however, the pinpoint damage to tough tissue rarely impacts wound healing.

In more delicate tissues, it is inappropriate to use rat-toothed forceps since they concentrate pressure at the teeth and might cause traumatic perforations or tears in the tissue. Examples of delicate tissues include the serosal layer of the intestine, bladder mucosa, vessels, and neurovascular structures. Tears in these tissues could be fatal if, for example, the intestine or a major blood vessel was grasped aggressively.

In delicate tissues, the Brown Adson or DeBakey forceps are used during tissue handling. The finer teeth and larger number of rows in these forceps help to distribute pressure and minimize the trauma imposed by the forceps in the wound. However, it must be emphasized that with aggressive use, such as excessive compression between the grasping area, even the larger surface area of these fine-toothed forceps can cause widespread tissue damage.

Another variation in thumb forceps is the presence of a finely serrated carbide “pad” adjacent to the tip. These forceps can be used during suturing to assist in holding or extracting needles.