

### Holding and Stowing Thumb Forceps

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#### Video Transcript

Thumb forceps are used by surgeons to assist in suturing tissue. The three ways that thumb forceps are used to facilitate suturing include:

1. Exposing and stabilizing tissue
2. Grasping the needle
3. Facilitating needle extraction

In this topic, we will demonstrate how to properly perform each of these techniques.

Thumb forceps are commonly used to expose and stabilize tissue during suturing. When using thumb forceps for this purpose, first plan the desired point of needle entrance. Then, using the thumb forceps, grasp a section of tissue that is close to, but comfortably away from, the chosen site of needle entrance. Be certain to grasp only enough tissue to place an appropriately sized needle “bite.”

Thumb forceps can also be used during suturing to grasp and extract the needle. This maneuver helps prevent the needle from retracting within the tissue. Before beginning this technique, make certain that you are using fine-toothed forceps (such as Brown-Adson, rather than rat-toothed tipped forceps (without the carbide pad), which make it difficult to grasp the needle and might also damage the needle.

To begin the maneuver, drive the needle from the far side of the incision, or tissue being sutured, to the near side. Expose the tip of the needle far enough to allow it to be grasped by the thumb forceps. At least one-third of the needle should be exposed before attempting to grasp the needle with the forceps. Next, pass the needle from the needle holder to the forceps. Be certain to grasp the curve, not the tip, of the needle at a right angle to the needle. This ensures a secure grip, prevents dulling or barbing of the needle point with the forceps, and lastly, helps the surgeon extract the needle with a short rotating motion.

Once the needle curve is securely grasped with the thumb forceps, tension is released from the needle holder ratchet at the same time that both instruments are rotated from the tissue in a curve, approximating the curve of the needle. This helps reduce the amount of pressure needed to hold the needle in the thumb forceps, and also reduces the amount of tension required to remove the needle from the tissue, thus reducing tissue trauma.

Keep in mind that transferring the needle from the needle holder to the forceps is one of the most difficult instrument techniques for the novice surgeon to master.

Another method to prevent needle retraction into tissue is to use the forceps to stabilize the tissue around the area of needle penetration. This is done by pressing down against the tissue, without closing the tines of the forceps, until the needle is sufficiently exposed to allow it to be grasped with the forceps for extraction from the tissue.

Now that we’ve shown you each of these three techniques, let’s take a look at some of the common mistakes that novices make when performing these techniques.

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When using the forceps to expose and stabilize tissue, novice surgeons often make the mistake of grasping the tissue at the desired point of needle entrance. This blocks the point of needle entrance and forces the surgeon to re-establish a different point or bite.

Another common mistake is to grasp copious amounts of tissue indiscriminately with the thumb forceps. Focus on picking up tissue only once, and grasping only enough tissue to place an appropriately sized bite. The key is to plan your target before touching the site.

Avoid using the thumb forceps as tissue retractors. Thumb forceps are poor retractors and should only be used temporarily if there are no other means for gaining exposure. Instead, use a retractor or an assistant to retract more superficial layers if necessary in order to gain access to a tissue layer for suturing. It is, however, acceptable to use thumb forceps to gently move tissue away from a needle bite or to temporarily grasp and drape away unwanted tissue from the needle bite.