

# suturing principles

## PRESERVING NEEDLE EDGES DURING DENTAL SUTURING

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The evolution of suture materials has presented today's clinician with numerous alternatives when performing dental suturing. Contemporary sutures not only eliminate some of the difficulties that the surgeon may have encountered previously during closure, but also decrease the potential of postoperative infection and help provide optimal healing. Despite the sophistication of the suture materials (ie, Perma Sharp, Hu-Friedy, Chicago, IL) and surgical techniques now available, closing a wound still involves the same essential procedure used by physicians who tended to the Roman emperors. The practitioner still utilizes a surgical needle to pull the suture strand as it is placed within the tissue.

### Avoiding Damage to the Needle

Suture needles are grasped only by needle holders, and are inserted and pulled through the tissue in line with the

circular form of the needle. The suture is pulled just tightly enough to secure the flap in place without restricting blood supply.

When suturing, the needle is carefully grasped in the center (approximately one half to one third of the distance from the swage to the point) with a needle holder (Figure 1). The needle shoulder should be placed a few millimeters from the tip of the needle holder; grasping the needle at the junction of the needle and suture (swage) should be avoided.

To avoid damaging the taper points or cutting edges when the needle holder is used to pull the needle out through the tissue, the needle should be grasped as far back as possible. When placing the needle in tissue, any force should be applied in the direction following the curve of the needle. The needle should not be forced or twisted to bring the point out through the tissues; the needle should be withdrawn and replaced in the tissue. Further, a dull needle should not be forced through tissue; the clinician should stop and use a new, sharp needle.

The clinician should avoid taking excessively large bites of tissue with small needles. The needle should not be utilized to bridge or approximate tissues for suturing. When the needle is held too tightly in a sharp or defective needle holder, it may be damaged or notched in such a manner that it may bend or break on successive passes through the tissue. When the needle holder with the needle is passed by the surgeon, the needle should be pointing in the direction in which it will be used (Figure 2), without the need for readjustment. In a deep, confined area, ideal positioning of the needle

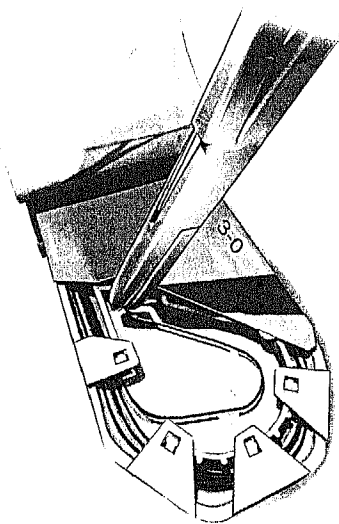
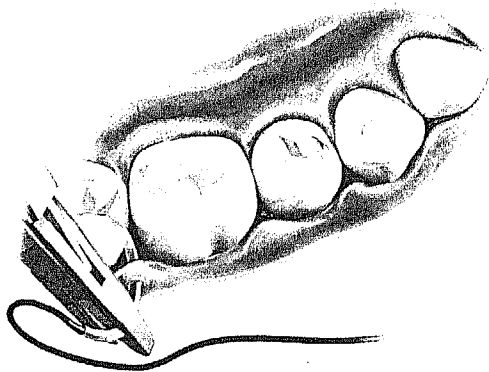


Figure 1. The needle holder grasps the needle body rather than the swaged portion of the needle.

## suturing principles *continued*



**Figure 2.** Note the direction of the needle's penetration; the needle will be used in this direction during the suturing procedure.

may not be possible, and the clinician should proceed with caution or use a heavier gauge needle. In some patients, the tissues may be tougher or fibrosed more than normal and require the utilization of a heavier gauge needle.

Currently, most manufacturers of suture needles provide a type of dual packaging that consists of an outer, nonsterile covering and an inner, sterile package to house the suture needle and material. Since suturing around teeth or dental implants usually involves the utilization of various suture needle sizes, types, materials, and techniques, the assistant/nurse can spray the outer package with an ADA-approved disinfectant so that multiple types of sutures can be placed on the surgical tables, but not opened. If they are not used, they can be resprayed and returned to the storage shelves.

Additional suture straightening should be minimal. If the suture strand must be straightened, the clinician should hold the armed needle holder and gently pull the strand, ensuring not to disarm the suture from the needle.

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