

Steps for Performing a Forehand Stitch

Video Transcript

There are nine steps required to skillfully perform a forehand stitch. In this topic, we will examine each of these steps.

The first step in performing a forehand stitch is to correctly position the needle in the needle holder. When deciding on the positioning, keep in mind the factors previously discussed, such as the width of the wound and the type of tissue being sutured.

The second step is to grasp the needle holder using one of the four needle holder grips. When selecting a grip, consider the amount of force needed to penetrate the tissue, in other words, consider the tissue density and how accurate the tissue bites need to be.

In the third step, position the free end of the suture away from your side of the field or towards an assistant.

The fourth step begins with determining the proper point of needle placement. When taking the forehand stitch, approach the tissue from the opposite side, sewing toward oneself in a far-to-near fashion. When you are ready to begin the stitch, place your hand in a pronated position, with your palm slightly away from your body. This will allow you to rotate the needle through a full 180 degrees of supination.

The next step in placing a stitch involves advancing the needle through the tissue. Using a curved needle, two forces need to be balanced; the driving force pushes the needle forward, and the rotating force keeps the proper needle curve in the tissue. The surgeon must balance each force throughout the needle track. As you complete the drive, try to advance the needle so that as much of the needle shaft as possible is exposed on the near side, in order to facilitate needle extraction.

The next step involved in placing a stitch relates to releasing and extracting the needle. When the needle is released from the jaws of the needle holder, there is a tendency for the needle to retract or dislodge from the tissue. To prevent this problem, you can use tissue forceps to grasp the needle before it is released, being careful to avoid grasping the sharp tip. Alternatively, you can use tissue forceps to hold the tissue on the needle, stabilizing it until the needle holders can be reapplied.

In step 7, regrasp the needle in the needle holders. The main thing to focus on in this step is to regrasp the needle perpendicular to the jaws of the needle holder on the first try. In this position, the needle holders are ready for the next bite, and you do not have to readjust the needle further.

In the next step, the needle is extracted from the tissue. Grasp the needle with your hand in a supinated position, palm facing towards you. This will allow you to extract the curved needle using the full range of motion of your wrist and forearm. Once again, the surgeon uses both rotating and driving forces to perform this maneuver.

When performing a continuous suture pattern, the needle is advanced and pulled out of the tissue just far enough to allow grasping of the midpoint of the needle. Using the supinated position, the next stitch can be made without adjusting the needle in the holder, saving time.

The ninth and final step in performing a forehand stitch is to pull the excess suture through the tissue. On a continuous suture line, pull the suture through the tissue until the desired amount of tension has been established on the suture line.