

KNOT TYING BASICS: ONE-HANDED SQUARE KNOT

Margaret Holland, PA-C, Former Student Representative

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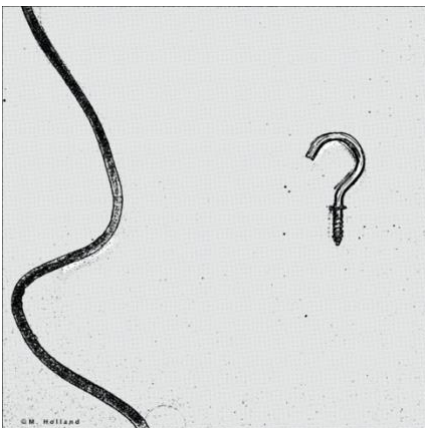
Knot tying is an essential skill in the operating room. The one-handed square knot is frequently used to tie all kinds of suture material and can be easily mastered with practice. Start practicing before your surgical rotation, so that your hands feel comfortable and confident tying this knot!

ONE-HANDED SQUARE KNOT (LEFT)

What you need:

- An 18 inch piece of “suture” (you can use household floss, string, or thread)
- One household metal screw hook (typically found in picture hanging kits)
- Cardboard box or other sturdy surface to create your knot-tying practice surface

Create your knot-tying practice surface by screwing the metal hook onto the middle of your cardboard box. Be sure to cover the tip of the screw to avoid accidental injury!



The following tutorial demonstrates how to tie the one-handed square knot using the LEFT hand. Before starting, consider these helpful tips!

Tip #1: Practice tying knots while wearing a pair of surgical gloves! This will help improve your dexterity as you get used to feeling suture through the gloves.

Tip #2: Practice tying knots with your non-dominant hand! For example, if you are right handed, practice tying the one-handed knot with your left hand. This will help you become versatile and capable of using both hands to tie knots. It is also useful because you most often need to hold a needle driver in your dominant hand, thus requiring that you tie the end of your suture with your non-dominant hand.

Step 1. Start by hooking the middle of your “suture” or string on the metal hook. In your right hand, grasp half of the string and use your index finger to keep some tension on it. In your left hand, grasp the other half of the suture and



hook it around your left index finger. Important Note: You will continue to keep tension on the string in your right hand while tying your knot. This hand will also remain relatively still, while the other hand is your “working hand.”

Step 2. Bring both ends of the string together, crisscrossing them over your left index finger.

Step 3. While holding the end of the string in your left thumb and middle finger, curl your left index finger so that it can create a loop with the string.

Step 4. Move your left index finger under and then over the string held by the left thumb and middle finger to create the loop.

Step 5. Now that you have a loop around your left index finger, rotate your hand so that you can pull the loop through the other string.

Step 6. Allow the end of the string in your left thumb and index finger to come all the way through to complete your first knot.

Step 7. Tighten your knot by applying tension to the string with both hands. It should lay flat, as demonstrated in the picture.

Step 8. Now with your left hand, grasp the end of the string between your thumb and index finger while looping the rest of the string around your remaining fingers.

Step 9. Maintaining this position, use your left middle finger to grasp the other string.

Step 10. Curl your left middle finger around the other string and bring it under the string you are holding with your left hand.

Step 11. Pull the string in your left hand through the loop that you have created with the other string.

Step 12. Pull the string completely through the loop to finish your second knot.

Step 13. Tighten your second knot! Notice that your left hand pulls tension away from you, while your right hand pulls towards you. This is opposite hand positions of the first knot. The enlarged picture shows what the knot should look like when finished. Congratulations! You have completed the one-handed square knot!

