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Overhand Knot Workbook
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1 Introduction

The **Overhand Knot** is the knot that most everyone thinks of when you say "Tie a knot." Very simple and yet also decorative if done with the right materials or in the right combination, as we will show you.

1.1 Nomenclature

The single **overhand knot** is also known as the **simple knot**, the **thumb knot**, the **half knot** and much less commonly as the **underhand knot**.

The **double overhand** is sometimes called the **blood knot**, the **barrel knot**, or the **grinner knot**.

The **triple overhand** is also called the **Capuchin knot**, after an order of Italian friars who would tie multiple overhand knots on the ends of their rope belts.

A **multiple overhand knot** is also often simply called a **long knot**. In addition to being decorative, the long knot serves as the unit knot in the ancient Incan **kipu** or **quipu** record keeping system.

1.2 Similar Knots

Many knots, decorative or otherwise, are based on the overhand knot. There are a series of decorative knots that involve 2 interlocking overhand knots, but the knots we are concerned with here are the ones most closely related to the long knot: the **fisherman's bend** and a **simple** or **common whipping**.

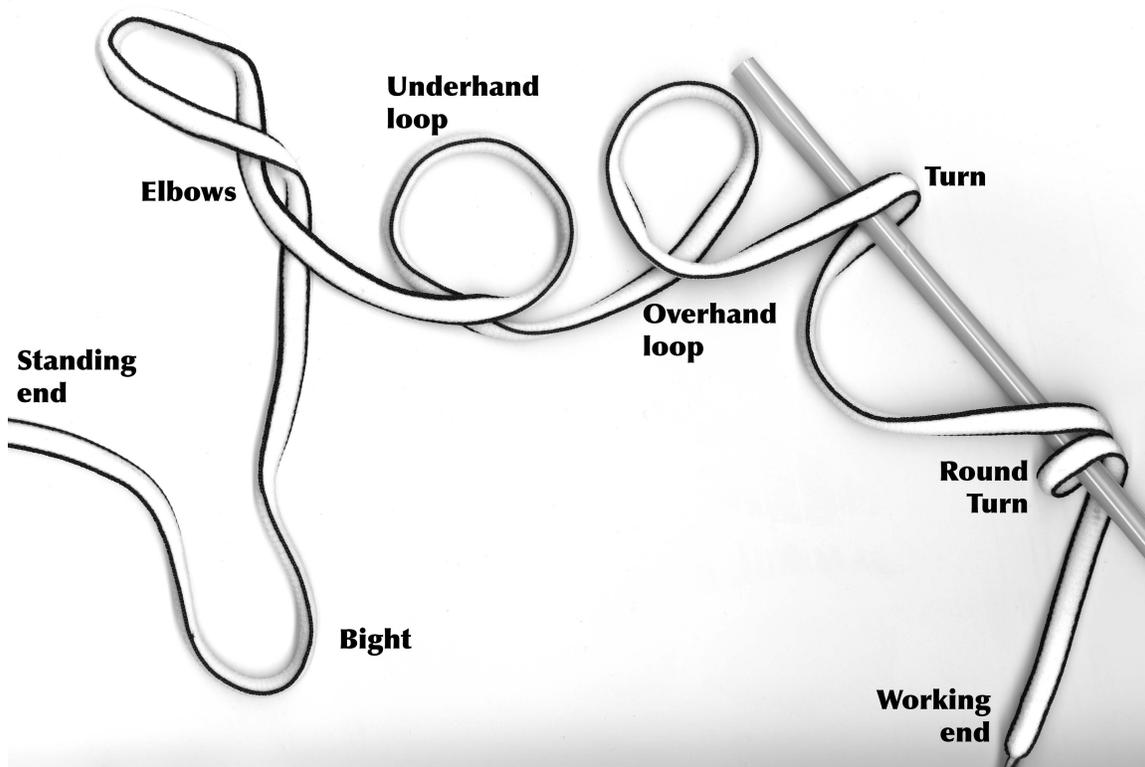
1.3 Terminology

I'm about to introduce a large list of knot terminology (here, I have tried to be as precise as possible), and yet in the rest of my writings I am very loose and casual with what others consider to be technical terms (*eg.* knots vs bends). I apologize in advance for any confusion or cognitive dissonance this may cause.

Standing End	the end of the cord that receives the least amount of manipulation,
Fixed End	perhaps it is heavily embellished or perhaps it is fixed to something.
Bitter End	
Working End	the end of the cord that is actively involved in making the knot or
Running End	interlacing
Live End	
Standing Part	part of the cord between the knot and the <u>standing end</u>
Working Part	part of the cord between the knot and the <u>working end</u>
Working Length	the amount of cord required to comfortably tie a knot versus the amount of cord required by the tied knot can vary greatly. The <u>working length</u> is the amount of cord required to tie the knot.

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Bight	an open loop, a curved section, a bend in the cord that does not cross itself
Tied in the Bight	tying a knot by folding the cord and using a <u>bight</u> as the <u>working end</u>
Elbows	two cord segments that cross at two points
Underhand Loop	a closed loop where the <u>working end</u> passes under the <u>standing part</u>
Overhand Loop	a closed loop where the <u>working end</u> passes over the <u>standing part</u>
Turn	where the cord folds over or passes through an object
Round Turn	where the cord encircles an object, sometimes called two turns .
Double x knot	a larger version of the x knot, it's next logical progression. Where applicable, there can be triple, quadruple, quintuple , etc.
Doubled x knot	running a parallel line through knot x to add a decorative element. Similarly the knot x can be tripled, quadrupled, quintupled , etc.



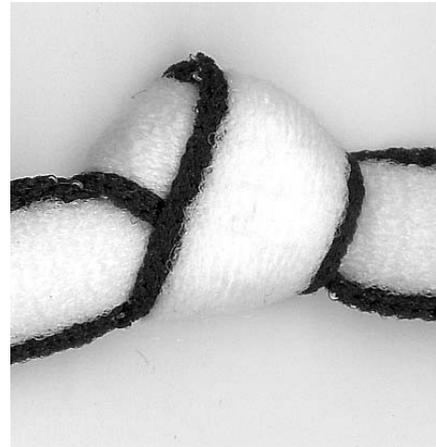
2 Tying the Knot

For every knot there are multiple ways to tie the same knot. Each person's "easiest" or "most logical" method is often different. I use two ways to tie the simple knot. I call them the **tuck method** and **wrap method**. The tuck method is a natural freehand method that uses a lot of working length. The wrap method uses a tool (or an extra loop of cord or thread), minimal

working length over and above that required for the finished knot and enables fairly precise placement of the knot – facilitating the incorporation of simple knots into a decorative design.

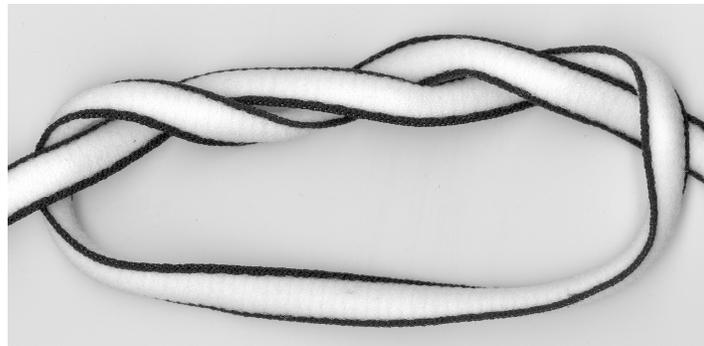
2.1 Tying a simple knot

Simply form a loop and tuck one end through. Pull on both ends to tighten.

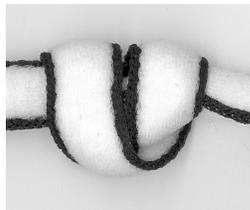


2.2 Tying a barrel knot

Form the loop and tuck the end through twice, then pull on both ends to tighten.



Depending on the angle from which you view the knot, it would be easy to miscount the number of the knot. Here's how I look at it. From the part of the barrel knot that I refer to as the "back", two wraps of cord can be seen. From the part of the barrel knot that I refer to as the "front", two half wraps that tuck into the body of the knot and one complete wrap can be seen. Thus, the number of the knot can be counted from the back (in this case, 2).



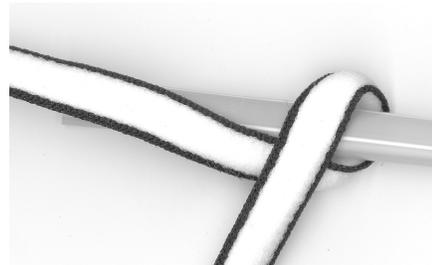
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2.3 Tying a long knot

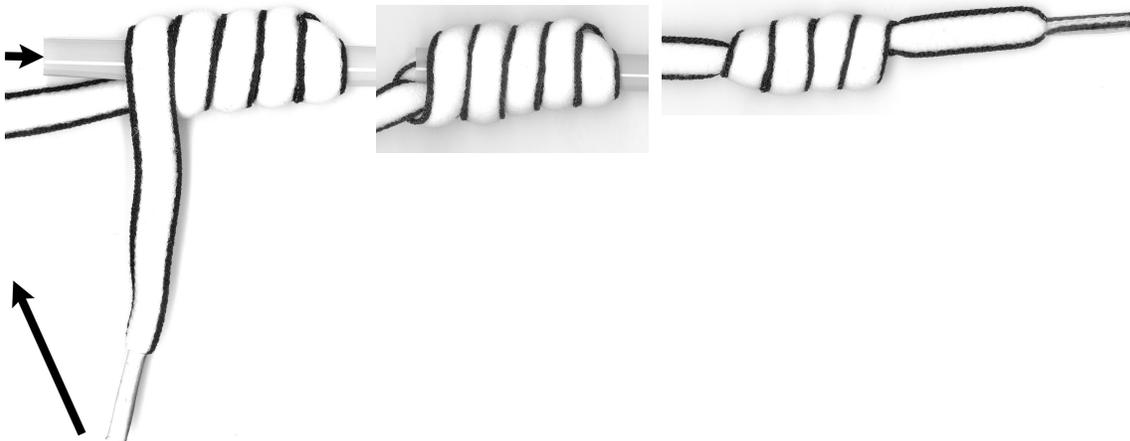
The simple knot can be extended with as many tucks for which you have patience and cord. The amount of working length available as well as the precision of your design will determine which method to use to tie a particular long knot.

For the wrap method, a loop of cord or thread, a bodkin, or other means of pulling the working end through the tunnel of a coil of cord will do the trick, but I like to use a hollow device such as a straw since passing a single thickness of cord through the tunnel is usually a more controlled exercise than pulling a doubled thickness through.

Start with the cord parallel to the straw, then start to wrap the working part around the straw. When the wrap crosses the standing part, start counting your wraps.



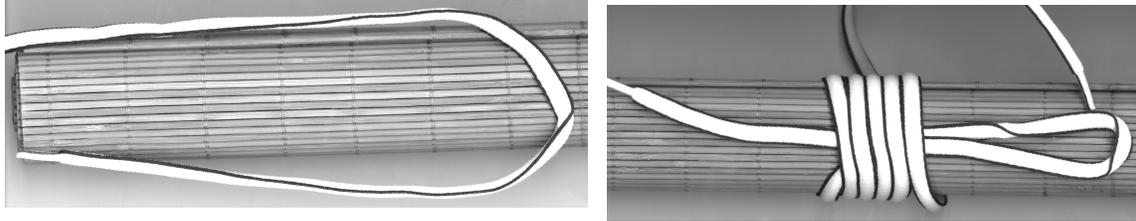
When you have wrapped as many times as you want, push your working end through the straw. While not crucial, it is best to push the end all the way through the tunnel of the coil, rather than rely on the straw to help draw the end through the last little bit. Remove the straw from your cord arrangement and gently tighten things up.



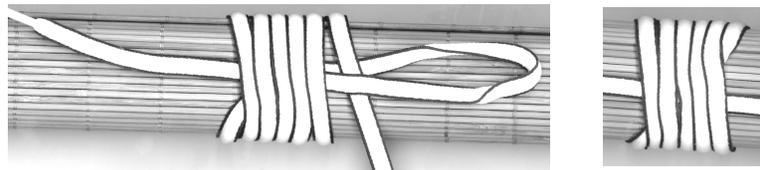
2.4 Create a sliding clasp: Simple Whipping

Technically speaking, a **whipping** is a knot tied around another cord to prevent it from fraying. But, if your "cord" happens to be a *bundle* of cords or threads, the same knot works... The **simple** or **common whipping**, as may be inferred from the name, is the simplest of this class of knots. It is a technique that is often used on the neck of an Asian tassel.

Start by laying your cord in a 'U' over your bundle. Wrap however far you would like, keeping in mind that the cord ends will form interlinked elbows under the wraps, so you



would probably want at least 3 or 4 wraps to cover the elbows. Tighten up the loops and pull the elbow to the middle of the wraps. Even out the tension and you are done.



To use the simple whipping technique to make a clasp, simply lay the ends of your decorated cord so that they overlap in opposite directions. Whip a section where they overlap. Decorate the cord ends so that they cannot slip through the whipped section, unless this is part of your design, perhaps as a safety measure.



To finish the whipping, there are 3 common methods:

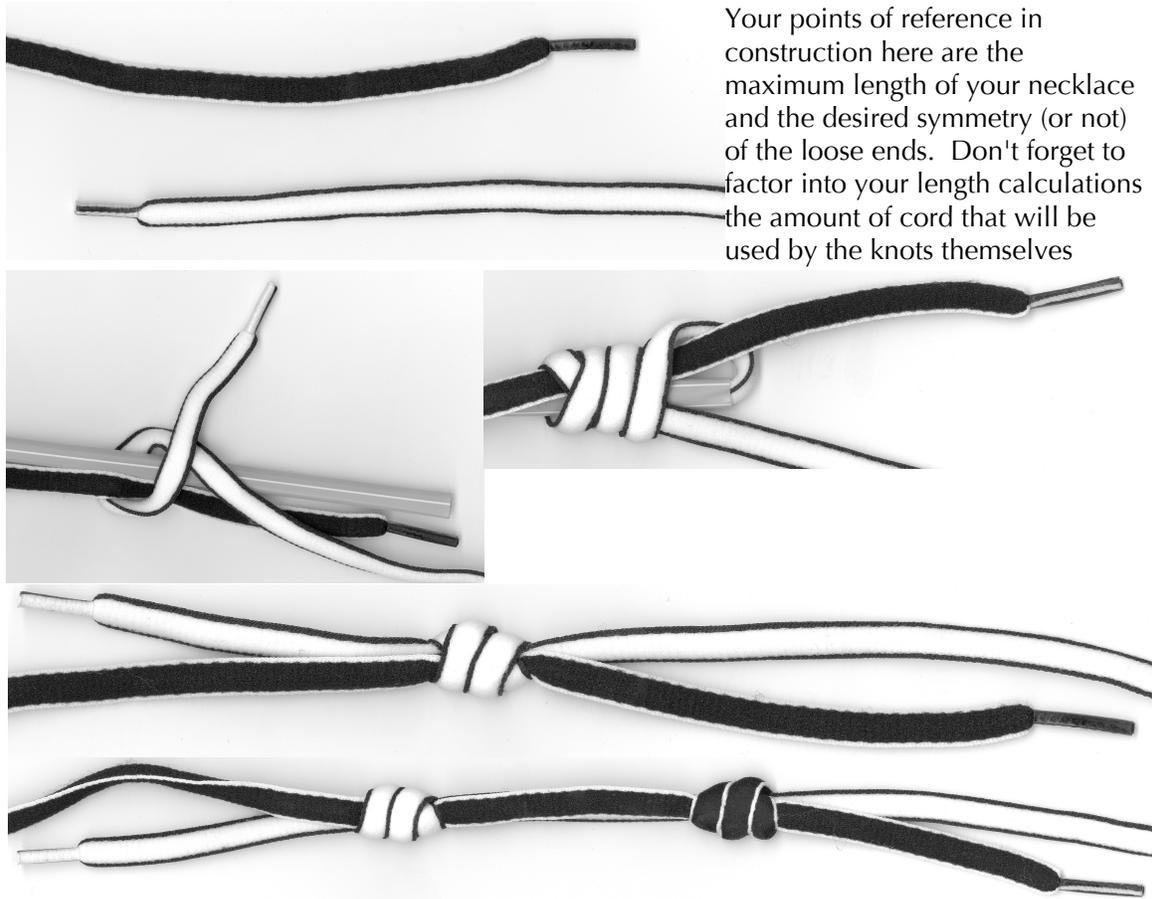
- 1) leave the ends long and decorate them as part of the design
- 2) if your cord is a material such as nylon or polyester, the ends can be cut short and then carefully heat sealed so that the end is melted into and thus attached to the coil of the whipping, but the decorated cord ends continue to slide. This method is quick, easy, and *not recommended* as it is sometimes unstable and is not very durable.
- 3) cut the ends short and finish them however you choose to prevent raveling (heat seal, Fray Check, cyanoacrilic glue, etc.) if need be, then sew the ends to the coil of the whipping.

2.5 Create a sliding clasp: Fisherman's Bend (Fisherman's Clasp)

A **bend** is a knot that joins 2 cords together. The **single fisherman's bend** is created by using each cord to tie a simple knot over the other. If you tie a barrel knot with each cord, this is a **double fisherman's bend**. Using three wrap long knots, **triple overhand knots** or **double barrel knots**, gives you a **triple fisherman's bend**. And so on.

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If your 2 cords are the 2 ends of a single decorated cord, then you have a **fisherman's clasp** and an adjustable pendant, necklace, or bracelet. Let us say that you are making a necklace. The more wraps on your knots, the more hold due to friction is generated. You will have to determine how many wraps you need depending on the slipperiness of the cord you are using, the weight of the pendant or other decorations involved, and the ease of adjustability that is needed. Usually, however, 2 or 3 wraps do the trick. When the sliding knots touch is your largest adjusted size, be sure that it fits over your head (or widest point of your hand) at this point. How small your necklace can get depends on the decorations fixed to the rest of your cord and the total length of the cord.



2.6 A few words about safety

If you work in an environment where snagging or grabbing might be an issue, if you will be giving an item made of cord to a child, if you are active in sports, or ... then you need to be thinking about safety. If, as I have, you use a material such as cords that are used in mountain climbing, you really want the piece to break before your neck does (and no one wants to be wearing their own garrote). Even standard decorative materials are likely to have a breaking

point that is far beyond sensible human endurance. What this means is that you want to build in a weak point into your design, a point that is **designed to break**. In other words, when the piece breaks, the wearer should suffer little or no damage and, as a secondary consideration, the piece should break in a controlled way that allows easy repair or reconstruction.

Traditional jewelry construction wisdom says to use a jump ring somewhere in the construction of your item. A jump ring deforms and releases easily and is also easy to replace. Jump rings and fibre works don't always get along, however. Depending in the metal of the jump ring, it can discolour your cord and the cut edges of the ring can also weaken and abrade the fibres of the cord. An easy fix to this issue is, if you can find the right materials, to thread solid (no seams or rough edges) beads (or clasps or bails) onto your cord and join the beads with a jump ring.

If you want an all-fibre solution or you can't find the desired beads and/or findings, here's a possibility. Create a thread "jump ring". Researching lanyard safety (you can look up information to do with printed security badge lanyards) it seems that the desired break point is 5lbs (2kg). How they determine that, I don't know, but what I did to test things is to attach a suitable weight to a necklace prototype, hang the necklace from a reasonably durable item, raise the weight as high as the cord allows and then see what happens when the weight is dropped.

Using all purpose 100% polyester sewing thread, I tried winding the thread around the 2 "clasp loops", finished off with a surgeon's knot. Three (3) winds broke at approximately 2 lbs (0.9kg), four (4) winds broke at 4.7lbs (2.1kg) and five (5) winds didn't break at 5lbs (2.3kg). To make life easier, of course, you can double your thread and just wind it twice around your clasp loops.

2.7 The Adjustable Safety Clasp (ASC)

The ASC is tied with barrel knot similar to the Fisherman's Clasp but the cord ends are **not** attached to each other and you are pulling a loop through the knot. Being a sliding loop knot, it is important that the free end forms the knot and the necklace end does the sliding, because if the free end is the sliding part, it is easy for it to pull through entirely, leaving you with no loop. So, reversing what you did previously, wind the standing part (end leading to the body



of the necklace) around the free end (usually the working end, but we're working the other part

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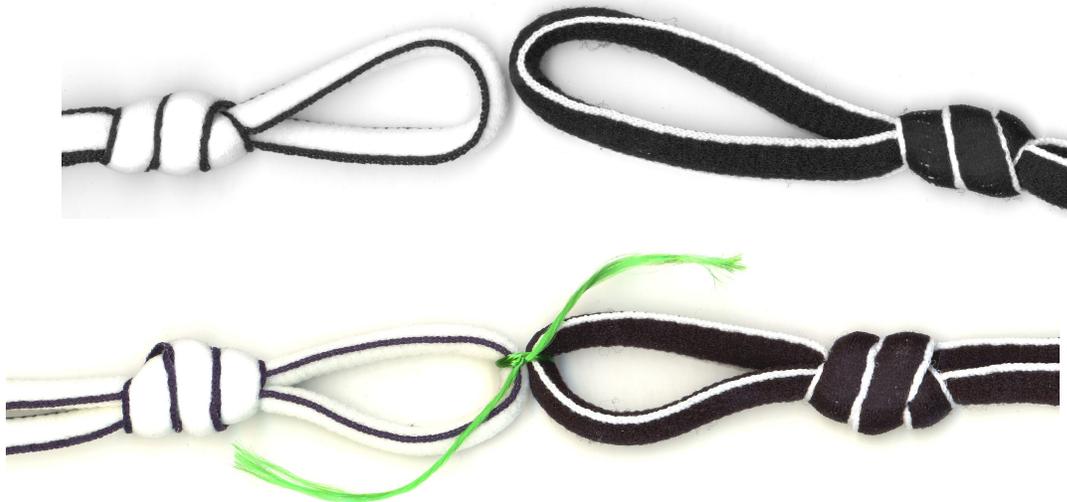
right now...) and push a bight into your straw. Tighten the knot and double check that it is the necklace side of the knot that slides.



If you were planning the bead-and-jump-ring route, you should have pre-strung your bead and pushed it through with your bight.



If you are using the "thread jump ring", wind the thread around the 2 clasp loops, then tie the thread using a surgeon's knot. Remember that the point of this particular clasp arrangement is to have something adjustable, so don't tie the clasp loops so tightly that the cords cannot slide.



If the knot still makes you nervous, you could probably put some Fray Check on it. Either way,

don't trim the ends of the thread too close to the knot.



Surgeon's Knot



Remember that if you use a different kind of thread (cotton, poly-cotton, rayon, jeans thread, upholstery thread, silk, etc.) then the number of winds to achieve the appropriate breaking point will be different. If you don't want to set up a test involving weights and such, you can guess that if the thread breaks given a firm tug you're in the right general area. If you need to strain to break the thread, then you're definitely using too much.

3 Projects

3.1 Kitty Tassel

The **cat 'o nine tails** is a weapon designed to maximize pain and damage. To that end, hard nodules in the form of **double** overhand knots are tied in the strands. It is from this rather gruesome origin that the name **blood knot** derives. It is also inspiration for the name of my **kitty tassel**, a much kinder and gentler object (also warmer and fuzzier?).

3.2 Elephant Hair Bracelet

Maybe.

3.3 Bead Show Necklace

Wandering around a bead show you will see many beautiful and inspirational art beads that you simply must have, if you are anything like me. It would be nice to show off your new purchases right away, but who wants to be spending money on finished chains (maybe you have some at home) when you could be buying more beads?!? Or maybe you are allergic to base metals and you definitely didn't budget for high carat precious metal chains. Luckily you have a few pieces of string in your pocket next to your Swiss Army knife and handkerchief. For about the cost of a candy bar (you didn't need one, did you?) and about 15 minutes of your time, you can tie a necklace to showcase your new art bead and save precious \$\$ for more beads!

4 Gallery