

Theory: Surgical Knots

1. Describe at least 5 factors that influence knot integrity (5pts)

Material type, bending, creasing, friction, tension, sawing one strand down another

2. In your own words, describe the following knots and what they are used for: Square;

Slip/Granny; Surgical (6pts)

Granny – cross right strand over left strand and tuck under, pull tight, then repeat – used if you need the knot to slide

Square – cross right strand over left and tuck under, pull tight, then cross left over right and tuck under, pull tight – used to hold something securely

Surgical – cross right strand over left and tuck under, repeat, then pull tight, cross left over right and tuck under, pull tight – this is used to lock the first throw in place until you can put the next one in.

3. Describe/theorize advantages and disadvantages of using

- One-handed square knot – faster, harder to master, tension may be off, slippage and need for retightening common
- Two-handed square knot – easiest, even tension, may accidentally grab needle
- Instrument ties – can get into tighter places, less risk of grabbing the needle by hand, more difficult to master

4. The suture material influences the number of throws necessary to create a secure knot.

Compare how chromic gut and synthetic suture influences the knot and how many throws Frye (p.383-384) recommends for each material. (4pts)

Chromic Gut – greatest security, 3 throws, can tangle

Synthetic – smoother and slipperier, minimum of 4 throws, some types up to 16 throws

5. The final knot to complete a repair is essential to ensuring the repair remains intact. Describe the tie-off method for a continuous row of stitches using triple strand square knot. Include number of throws for various suture. (4pts)

Chromic gut - 3 throws total, right over left and tuck and tighten, left over right and tuck and tighten, then right over left again and tuck and tighten.

Vicryl – 3 throws

Ddexon II – 4 throws

Some recommend braided - 6 throws, monofilament - 16 throws

You could also do the Aberdeen knot (highwayman's hitch or high post hitch) *This one looked really cool.