

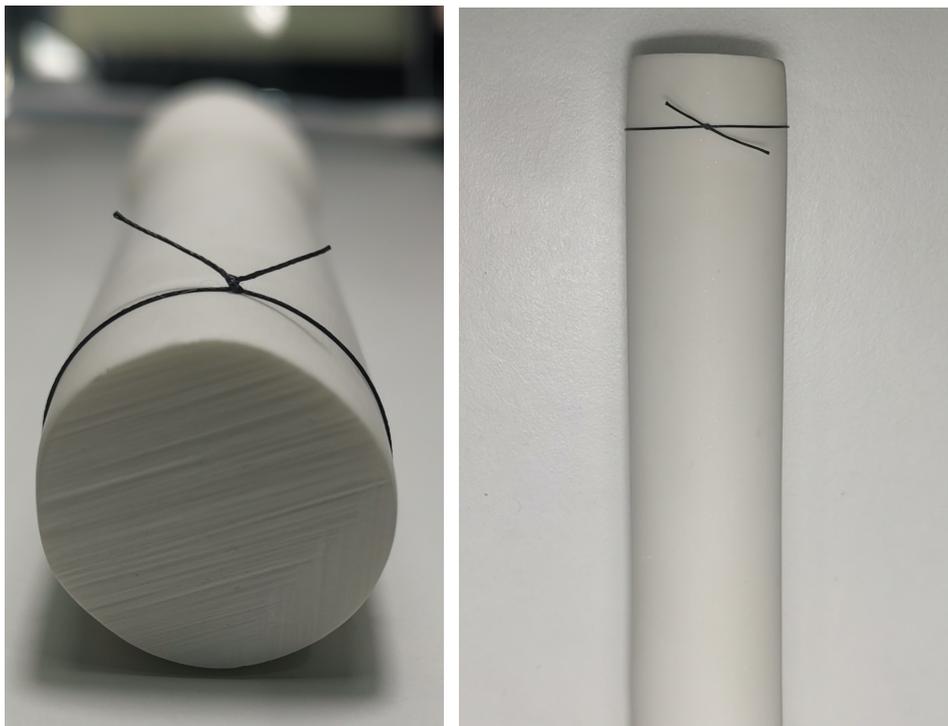
Peer Review File

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Reviewer A: This manuscript presents a novel technique for making surgical ties. This method is easy to perform and effectively prevent loosening of knots and damaging to suture material by clamp in high-tension situations. The design is simple and clear and the result is good. About this manuscript I have only one small question:

Comment 1: The author says that using this new technique can prevent loosening of the first knot, but there is only testing about ultimate tensile load. It would be better off if tension caused by the suture loops over the cylinders in these two groups is provided.

Reply 1: Thank you for your helpful comment and we confess that we cannot test the tension caused by the suture loops over the cylinders due to the lack of required technique. However, we have tested the diameter of suture loops and compared with the diameter of cylinder. We found that the diameters of suture loops were the same as cylinder perimeter, indicating that the suture loops were not loose.



Reviewer B: The paper is well written, the introduction and discussion of the problem reasonable and clear, the methodological approach sensible. I have a few comments that I think are important.

Comment 1: Firstly, the description of the technique is inadequate for me to know what it involves. At the very least it requires some diagrams. Where you say 'the first suture knot' I presume you mean what I would call the first 'throw'. I am not sure then if you are placing a second 'throw' such that you have an UNLOCKED knot, which you can slide, or something else.

Reply 1: Thank you for your helpful comment and we apologize that we described the knotting technique inadequately. We have added the detailed diagrams of each knotting step of two methods. As you say, the second throw is an unlocked knot, and we can slide it to tight the first throw, then a third reverse throw is made to lock the knot. Meanwhile, the second throw could also be a square knot, in other words, either unlocked knot or square knot (the second throw) could slide to tight the first throw using this knotting technique. We have used this knotting technique for decades, and its reliability have been sufficiently acknowledged by thousands of previous surgical cases.

Changes in the text: We added the detailed diagrams in Fig.1 and Fig.2.

Comment 2: Secondly, you say you developed this technique. As far as I am aware, there are a number of techniques that can be used to avoid tying loose knots, and avoid slipping during tying of high-tension wounds. If you are doing something that other people have done before, you need to be sure you are not claiming originality for something that you have only discovered independently. (You can still justify doing the testing that you have done).

Reply 2: Thank you for your helpful comment. There are various of methods to prevent tying loose knots. A common technique is holding the knotted suture with the surgical clamp. Our knotting technique is safe and effective. It can reduce the risk of

suture damage by avoiding clamping of the suture. This knotting technique is initially described by our team based on our practice and summary in clinical work. We agree with the review's comment and correct the expression of "develop this technique" to "discover independently".

Comment 3: Thirdly, even if your own technique is original, I would suggest that you need to place it in the context of a variety of techniques, including, for example, placing a double throw or even a triple throw, which almost never slips (but arguably makes a bulkier knot). At the very least you should include in your discussion that technique, and ideally, I would suggest, you should repeat your experiments using that as a third alternative.

Reply 3: We appreciate your helpful comments. A triple throw is made with our knotting technique and can achieve a firm lock. As your suggestion, we have revised it in the discussion section.

Changes in the text: We have modified our text as advised (see page 7, line 142-143).