

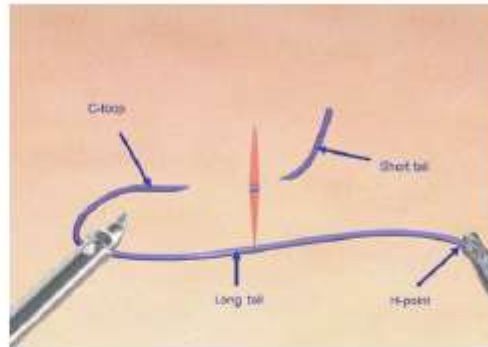
Square knot (男結び: Opposite half knots の関係にある2回結び)



Appearance: a loop wraps around both legs of the knot, so that both limbs traverse below, or both traverse above the loop that surrounds them.

一回結びを反対方向に二回行うSquare knotを紹介する。

右から左へ組織を通した針側を右手前に持ってくることでCの字を形成する方法が基本である。それをもとに図の如く Short end (Short tailと呼ぶ場合もある)、Long end (Long tailと呼ぶ場合もある)、Entry point (刺入点)、Exit point



(導出点)、Bight (湾部: 本コースではループまたは Long end、Long tailと呼ぶ場合もある)、Holding point (把持部: 本コースでは H-pointと呼ぶ場合もある)、Standing part (立脚部) などの名称をつける。

説明のシェーマは、Szabo氏が紹介している図をそのまま引用させていただく。基本は、左右の持ち手を替え、補助鉗子の上から糸を巻きつける Overwrap を左右で行うことで Square knot を形成すると理解する。あえて翻訳は無く英語のまま説明文章をつけておくので、基本的な方法を図から読み取っていただくこととする。

Figs. 1-4:
First flat knot.

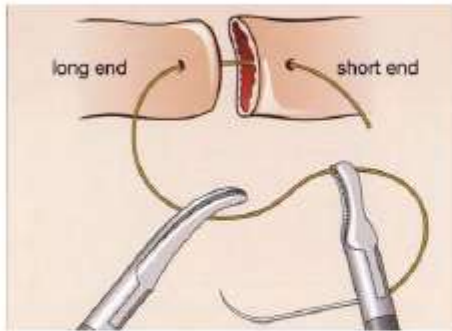


Fig. 1:
After the needle has passed through the tissue, the needle driver crosses over to the opposite side of the field and grasps the long tail (with the needle), and positions it below the short tail in a "C" configuration. (If using monofilament suture, it is imperative that the needle driver be rotated counterclockwise until the C-loop is laid in a horizontal plane).

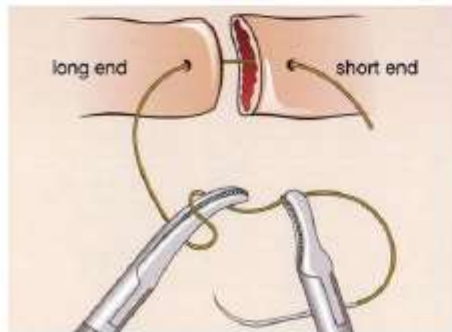


Fig. 2:
The assisting grasper is placed over the C-loop, and the needle driver wraps once over and under the assisting grasper.

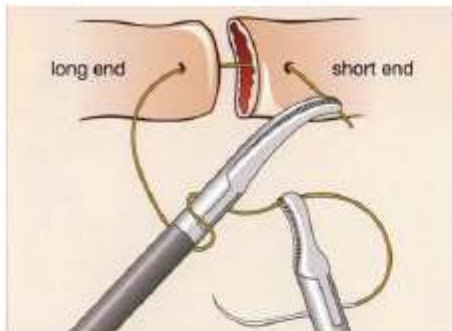


Fig. 3:
The assisting grasper grasps the short tail of the thread. (This process is facilitated by bringing both instruments toward the short tail.)

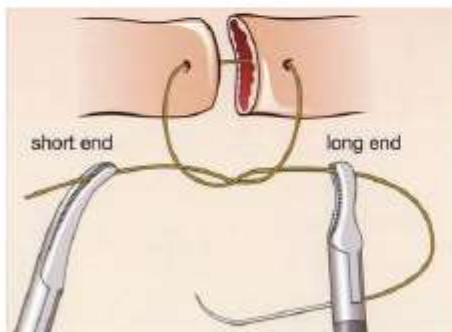


Fig. 4:
The instruments pull in an opposite direction, parallel with the stitch, to cinch down the first flat knot. The assisting grasper releases its hold, and the needle driver while still holding the thread, crosses over and hands its thread to the assisting grasper.

引用: SZABO, Zoltán "LAPAROSCOPIC SUTURING SYSTEM with the SZABO-BERCI Needle Driver Set"
Verlag Endo-Press, Tuttlingen (2004) Available from KARL STORZ

Fig. 5-8:
Second, opposing flat knot.

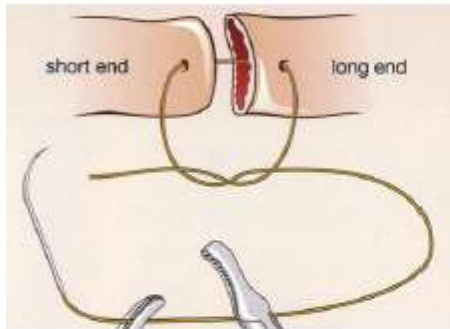


Fig. 5:
A reversed C-loop has now been created.
(If using monofilament suture, the assisting grasper should rotate the thread clockwise until a horizontal plane for the reversed C-loop is created.) The needle driver is placed over this loop.

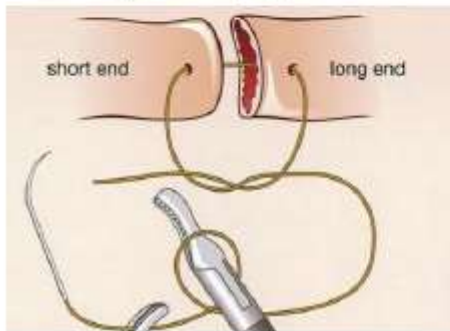


Fig. 6:
...and the long tail is wrapped around it once, over and then under the needle driver and reaches to grasp the short tail.

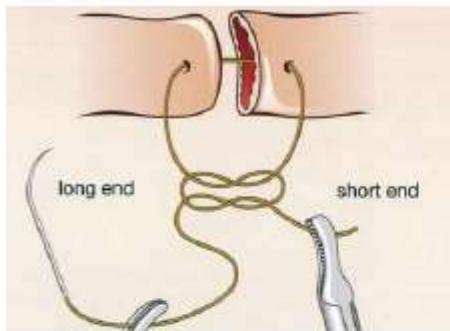


Fig. 7:
The instruments pull the tails in opposite directions...

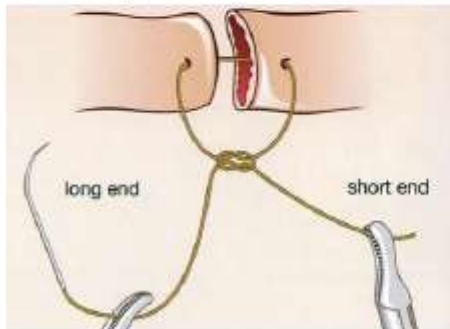


Fig. 8:
...and cinches the knot down into a locking configuration.