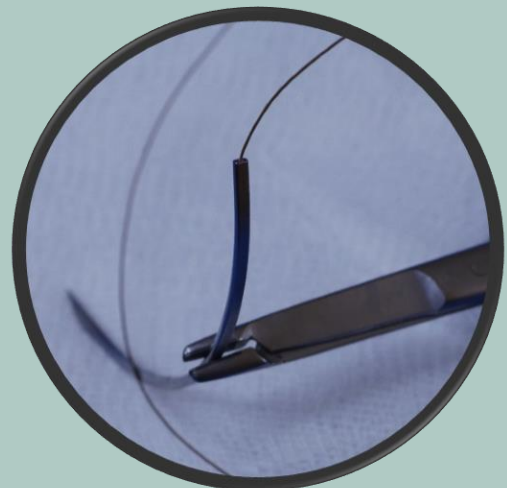
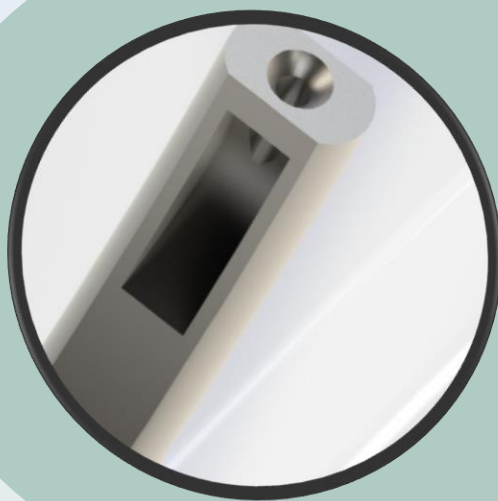
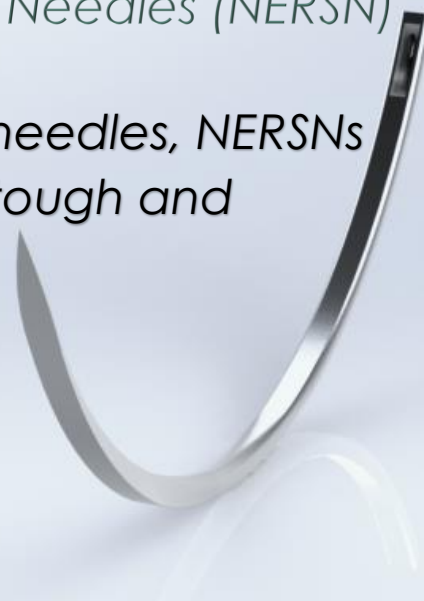


# NOVEL EYELESS REUSABLE SUTURE NEEDLES PRODUCT CATALOGUE

## FIRST OF ITS KIND

*Reusable Drilled-end Suture Needles (NERSN)*

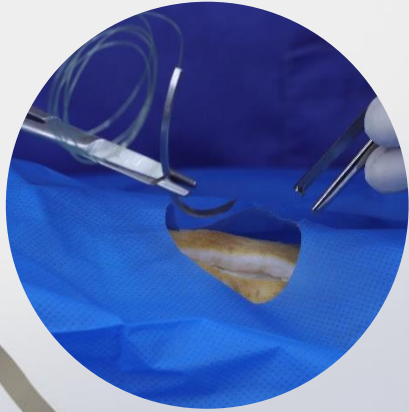
*Like pre-threaded swaged needles, NERSNs are made to drive through tough and bulky tissues with incredibly reduced resistance*



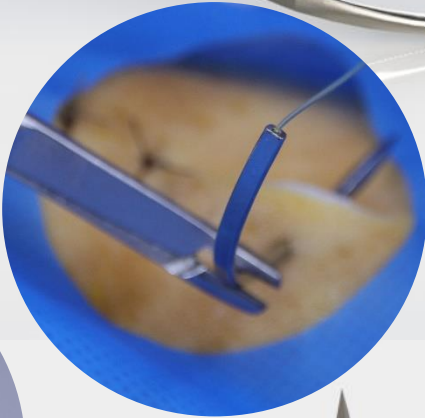
**nensn**  
EYELESS & REUSABLE

[WWW.NENSN.COM](http://WWW.NENSN.COM)

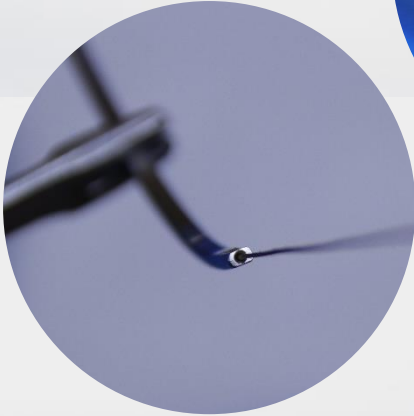
# BENEFITS OF THE NEEDLES



Needle is threaded with no exposed suture knob, bulk or double strand which eliminates suture-tissue resistance and gives the feel of a swagged eyeless needle



Eliminates jerky movements for smooth passage through dense tissues which enhances suturing experience and minimises undue tissue trauma



Suture emerges directly from the end of the needle thus combining the needle-suture thickness and reducing overall friction, ideal for heavy-duty suturing

## QUICK FACTS

NERSNs are made of AISI-420 stainless steel. Have passed corrosion resistance, point sharpness and hardness tests.

The needle mechanism attaches the suture safely by a simple stopper knot

# THREADING INSTRUCTIONS

1



- 1 Hold the needle pointing away and insert the working end of the suture into the drilled-end hole as shown



2



- 2 The suture emerges in the groove

3



- 3 Make a tight overhand knot, trim off excess suture, bury the knot into the groove placing the twist on the right hand side of the groove. Gently pull the suture back; you may also press the knot into the groove by clamping over it.



# NEEDLE – SUTURE COUPLING

The mechanism of the needle to attach suture material is refined to leverage the inherent structure and configuration of the overhand knot. The knot acts as a stopper to safely secure suture material to the needle. Essential parts of the needle 1, 2 and 3 as shown below demonstrates how the needle interact with parts of the suture knot 4, 5 and 6.

## FEATURES OF THE NEEDLE

Groove

1

Conduit/hole

2

Drilled-end

3

▣ **TOP VIEW:** The groove effectively hides 63 -100% of the knot, hence reducing or completely eliminating tissue interruption by the knot

▣ Left and right-side walls of the groove exert pressure on the knot preventing it from unravelling

▣ The base of the groove mimics the interior curvature of a cylinder. Once the suture material is applied to the needle, the incline of the base aligns with the angular displacement of the overhand knot. This base-knot interface stabilises the needle-suture attachment

▣ Drilled-end provides for suture to emerge directly from the end of the needle thereby ensuring that only a single strand is pulled through tissues

▣ After suturing is done, the needle can be unthreaded by hooking the knot of out the groove

## FEATURES OF THE KNOT

4

Trimmed working end

5

Twist

6

Standing end

▣ **TOP VIEW:** An overhand knot is made up of a single strand of suture looped over itself to create a simple knot with a twist, a working end and a standing end

▣ The overhand knot is an effective stopper. However, to keep it firmly secured inside the groove and to avoid looping, the knot must to be placed into the groove correctly as shown in threading instructions step 3

▣ Correct threading can be verified by observing that the twist of the knot is placed on the right-hand side of the groove

▣ **SIDE VIEW:** Overhand knot always adopts a tilted orientation along the strand, the needle design harnesses this feature to stabilise suture fixation



# NEEDLES RANGE

G178



Width: 1.78mm  
Length: 87.50mm  
Point: Cutting edge  
Shape: 3/8 circle



P198



Width: 1.98mm  
Length: 87.50mm  
Point: Cutting edge  
Shape: 3/8 circle



B218



Width: 2.18mm  
Length: 87.50mm  
Point: Cutting edge  
Shape: 3/8 circle

# RECOMMENDED SUTURE SIZES

Use the correct suture for the corresponding needle size. An overly large suture size will result in a knot ineffectively buried which will interrupt the tissues and an overly small suture results in knot-attachment instability and potential looping.

U.S.P. Size	COLLAGEN SUTURES		SYNTHETIC SUTURES	
	Metric Size	Recommended NERSN Needle	Metric Size	Recommended NERSN Needle
4	8	-	6	<b>B218</b>
3	7	-	6	<b>B218</b>
2	6	<b>B218</b>	5	<b>P198</b>
1	5	<b>P198</b>	4	<b>P178</b>
0	4	<b>P198</b>	3.5	<b>G178</b>
2-0	3.5	<b>G178</b>	3	<b>G178</b>
3-0	3	<b>G178</b>	2	-

# QUALITY ASSURANCE

NERSN needles have been manufactured according to Annex II, excluding Section 4 of the EU Council Directive 93/42/EEC concerning medical devices, as amended directive 2007/47/EC and having the following details: special eye needle/drilled-end reusable needle 87.50mm in length, 3/8 circle cutting edge and width variations of 2.18mm, 1.98mm and 1.78mm. The needles are covered under class IIa (Annexure - IX Rule 6) of the Directives (MDD) and strictly conforms with to EC Directives 93/42/EEC as amended by 2007/47/EC. Applicable standards: EN ISO 13485:2016/A11:2021, EN ISO 15223-1:2021, EN ISO 14971:2012, EN 1041:20082, 62366:2008, EN ISO 10993-5:2009, EN ISO 10993-11:2018, EN ISO 10993-12:2021, EN ISO 10993-13:2010, EN ISO 10993-17:2009, EN ISO 11737-1:2018/A1:2021, ISO 10993-1:2018, ISO 10993-10:2021, ISO/TR 80002-2:2017, ISO 14544-1:2015, ISO7153-1:2016, IS 9165:1992 (Part I & II), IS 7531:1990, ASTM A313 / A313M – 18, ASTM F899-20, ASTM A380 / A380M – 17, ASTM F3014 – 14, ASTM F1840 – 10(2016), ASTM F1089 – 18, ASTM A967 / A967 / A967M – 17.

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