Suture Needle Catalogue

MANI

Each needle is optimally deigned for a specific surgical operation

MANI offers over 10,000 different types of eyeless suture needles.
They come in wide-ranging designs that are made from
several fine materials and wire of different diameters,
combining a subtly varied tip, needle shape, curvature, length, hole diameter,
and coating for each needle.
MANI is confident that its portfolio of suture needles is
comprehensive enough to meet any surgical needs.
Please explore this catalog to find the specific suture needle
you have been looking for.

3 Outstanding Features of

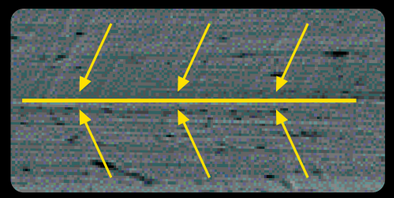
MANI Suture Needle

MANI Eyeless Needle has been developed as Suture needle that are optimally designed for cardiovascular surgery and other surgical operations. These suture needles made of MANI Hard-Fiber Stainless Steel provide superb sharpness and safety because of their masterful needle design, silicone-coating technology, and high break-resistance. They meet the precise needs of doctors and are versatile enough to be used in virtually any surgeries encompassing all body regions and involving a whole range of surgical procedures.

Sharpness

Cross-lapped Edge

MANI's fine-processing technology has created this unique cross-lapped edge which provides such exquisite sharpness and stable quality. (Cross-lapped edge: Polishing direction is vertical to the edge.)



* This technology is employed in some of our needle type.

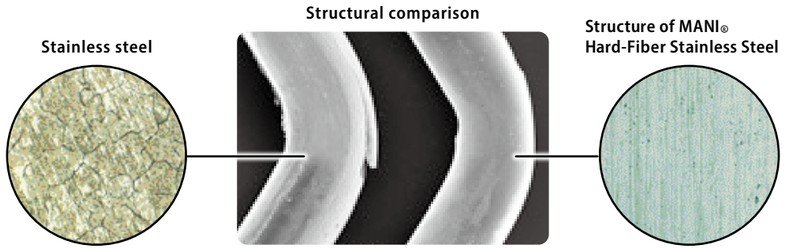
Silicone

MANI's silicone-coating technology allows it to produce needles that present excellent initial penetration performance as well as high durability after series of penetrations. As the lineup also includes coated needles that do not have silicone applied to the swage, they are able to meet the needs of both manufactures and doctors.

Safety

"MANI's original hard-fiber stainless steel"

MANI Hard-Fiber Stainless Steel provides reliable strength from the tip to the end. This original material allows MANI to produce needles with high ductility, bending strength, and corrosion resistance.



Swage

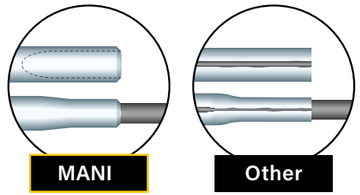
1972 was the year when MANI applied laser drill technology to manufacture suture needles for the first time. MANI's swage design incorporates several key technologies to prevent unnecessary injuries during tissue penetration.

Special treatment

The swage is specially processed to achieve optimal thread retention, leading to stable pull-out strength.

Laser drill

Its sophisticated laser drill technology allows MANI to create a drilled end on the micro needles, further improving non-invasiveness.

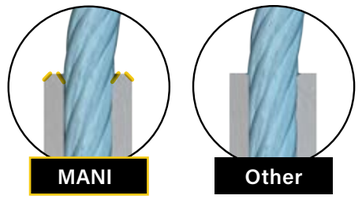


Outside chamfering

The outside edge is cut off to avoid tissue damage from a corner.

Inside chamfering

The inside edge is also cut off to minimize damage to delicate thread.

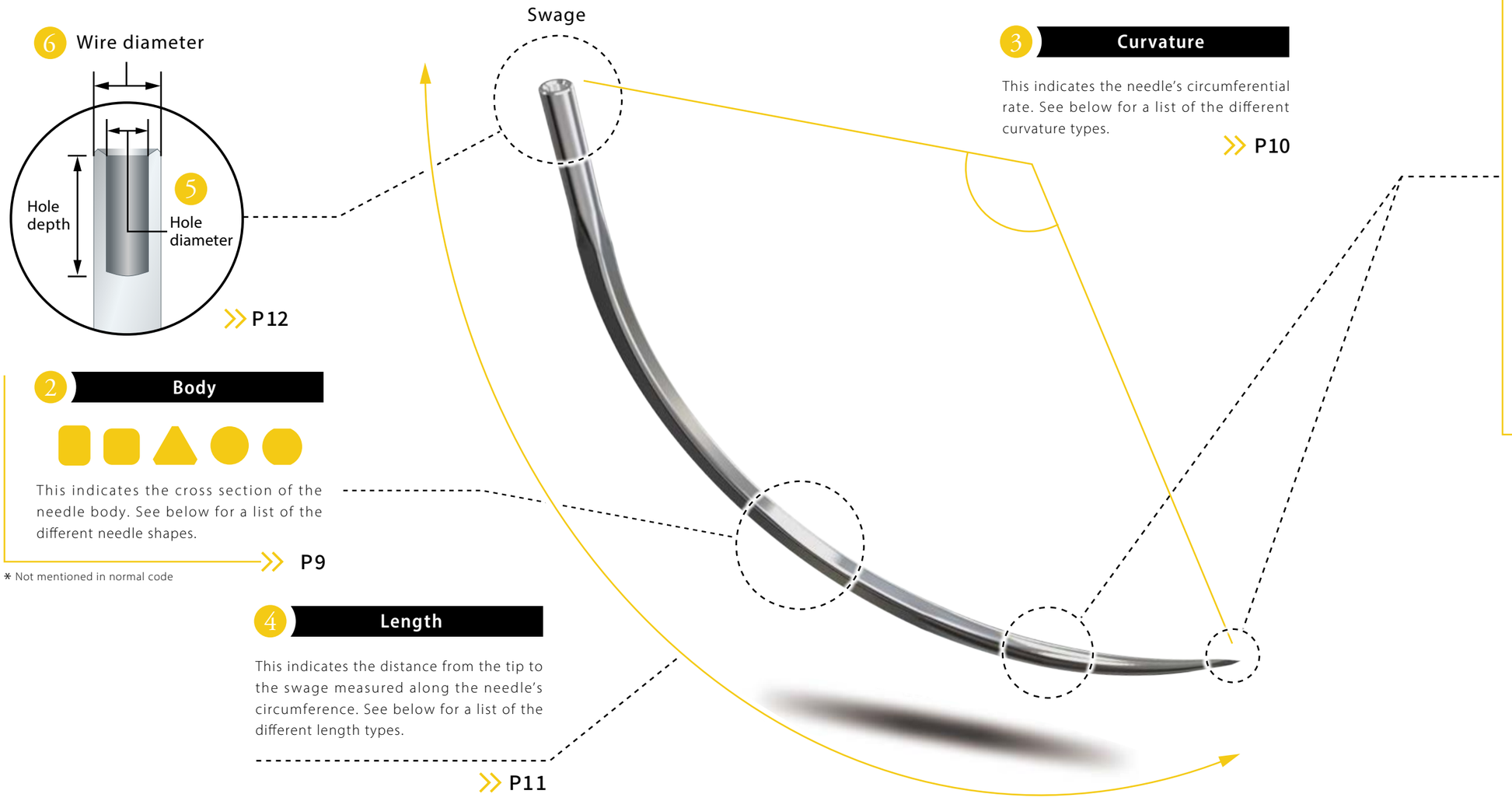


* Not all MANI needles are made involving outside and inside chamfering. Please send us an inquiry for further information.

Needle Code

Each needle code features a different tip, needle shape, curvature, length, hole diameter, external diameter, surface treatment, and material.
Therefore, MANI's lineup consists of over 10,000 different types of needles to choose from, depending on the body region and the surgical procedure involved in each operation.
Attention is paid to the smallest details when MANI makes each needle in order to meet the mission-critical needs of doctors, achieve high post-operation QOL for patients, and allow for steady surgical procedures.

ex: O(V)E/09-13×24(S2)X4
1 2 3 4 5 6 7 8



1 Needle Point

	O	T	Y	U
Edge Mark	●	●	Y	⋔
Cross Section	○	○	Y	▽

	D	C	R	Q
Edge Mark	—	⋔	⋔	⋔
Cross Section	○	▽	▽	△

This indicates the tip shape. The edge mark represents the shape of the wound.

» P7

2 Body

This indicates the cross section of the needle body. See below for a list of the different needle shapes.

» P9

* Not mentioned in normal code

3 Curvature

This indicates the needle's circumferential rate. See below for a list of the different curvature types.

» P10

4 Length

This indicates the distance from the tip to the swage measured along the needle's circumference. See below for a list of the different length types.

» P11

5 Hole Diameter

» P12

7 Surface Treatment

This indicates the type of surface treatment and silicone coating applied. It is not mentioned in case no surface treatment is required.

* Not mentioned in case no surface treatment is required

8 Material

This indicates the type of material used. It is mentioned only in case new alloy is used.

* Mentioned only in case new alloy is used

Needle Point

T Taper Point（Flat）

- The tip becomes increasingly sharper and narrower toward the end while the needle body has a flat shape.
- Tissue penetration is achieved initially through a small point of entry and subsequently through incision extension.

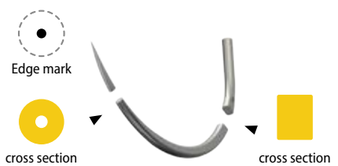
【Applications】Peritoneum, abdominal organs, cardiac muscle, dura mater, hypodermis, muscular layer, digestive tract, blood vessels, nerves, etc.

O Taper Point（Round）

- The tip becomes increasingly sharper and narrower toward the end while the needle body has a round shape.
- Tissue penetration is achieved initially through a small point of entry and subsequently through incision extension.

【Applications】Peritoneum, abdominal organs, cardiac muscle, dura mater, hypodermis, muscular layer, digestive tract, nerves, etc.

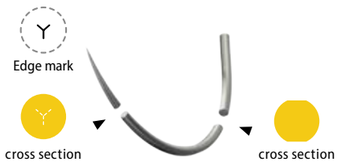
OV Taper Point（Rectangular）



- The tip becomes increasingly sharper and narrower toward the end while the needle body has a rectangular shape.
- The rectangular body shape provides higher bending strength.

【Applications】High-risk procedures mainly in CV surgery

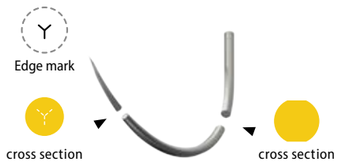
Y Taper Cutting



- This taper-point needle type features three distinct edges at the tip.
- The tapered needle body allows for smooth tissue penetration and minimizes the risk of the needle entering into surrounding tissues.

【Applications】Intricate hard tissues (fascia, periosteum, tendons, ligaments, calcified blood vessels, valves, etc.)

Y5 Premium Taper Cutting



- A version of the Y needle with enhanced sharpness. It has a narrower shape than the Y needle and allows for smooth penetration into smaller tissues, blood vessels, and vascular grafts.
- Designed to minimize the risk of blood leakage.

【Applications】 Smaller tissues, blood vessels, and vascular grafts than those for which the Y needle is used.

YV Taper Cutting (Rectangular)

- The same tip feature as the Y needle, while the needle body has a rectangular shape.
- The rectangular body shape provides higher bending strength and minimizes the risk of needle breakage and bending.

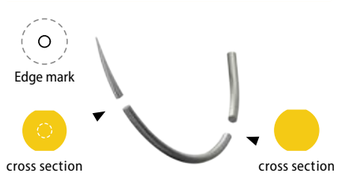
【Applications】 Mainly tough, hard-to-penetrate tissue (Fascia, Periosteum, Tendon, Ligament, Calcified vessel and Valve, etc.

B Blunt Point

- The blunt tip has a round end with a diameter that is 50% of the needle's outer diameter.
- Basically the same design as the taper point type except for the blunt round tip. The tapered body coupled with the round blunt tip minimizes the amount of tissue incision while providing safety to medical professionals.

【Applications】Sternal closure, liver, kidneys, etc.

B2 Blunt Taper



- The blunt tip has a round end with a diameter that is 20% of the needle's outer diameter (higher penetration performance than the type B).
- It features higher penetration performance while maintaining the safety of the blunt point type for broader surgical applications.

【Applications】Sternal closure (Including Manubrium of sternum), Liver, Kidney, etc.

C Straight Cutting

- The straight tip is pressed and ground to create a trigonal end.

【Applications】 Dermal suture

Legends of MANI needle code

MANI offers needles with a whole range of tip shapes that doctors can choose from to meet their specific needs depending on the technical and surgical procedures involved in each operation. MANI needles are designed to provide sharpness, that minimizes tissue damage along with stable quality so that sutures become less noticeable and aesthetically more satisfactory. Below is a list of the most commonly used needle codes.

D Diamond Cutting

- The tip is pressed flat and then ground to produce a rectangular end. The four ground surfaces at the end have the near-identical shapes forming a quadrangular pyramid.

【Applications】 Dermal suture, calcified or hard tissues

R Reverse Cutting

- The needle body is pressed into a triangular shape, forming a trigonal pyramid at the end, with the cutting edge placed on the outer convex curvature.

【Applications】 Skin, hard tissues, tendon sheath, oral mucosa, and other difficult-to-penetrate tissues

R4 Premium Reverse Cutting

- A version of the R needle with enhanced penetration performance and the same high bending strength.

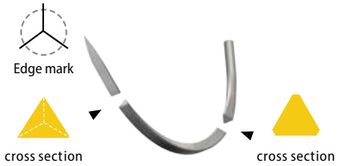
【Applications】Skin, hard tissues, tendon sheath, oral mucosa, and other difficult-to-penetrate tissues

R5 Ultimate Reverse Cutting

- This model features a specially designed tip formed by concave surfaces for maximum sharpness.

【Applications】Cosmetic surgery, reconstructive surgery, and other procedures requiring attention to aesthetic aspects.

Q Conventional Cutting



- The same tip shape as the R needle, with the cutting edge placed on the inner convex curvature.

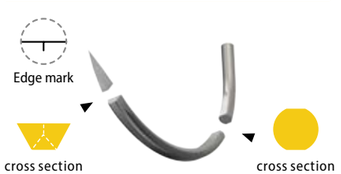
【Applications】Skin and other hard tissues

Q4 Premium Conventional Cutting

- A version of the Q needle with enhanced penetration performance and the same bending strength.

【Applications】 Skin and other hard tissues

P Cosmetic Needle



- The tip is pressed flat and then ground to create a trigonal end. The first of the three surfaces at the end is ground more than the other two to form this thin blade tip.

【Applications】Reconstructive and cosmetic surgeries

Z Trape Spatula

- This specially designed spatula blade allows for smooth and steady tissue penetration.
- Sufficient strength and sharpness for use on the sclera and muscles.

【Applications】Mainly eye surgery

X Dia Spatula

- Taper pressed as the Z needle, the tip is ground to create a quadrangular surface.

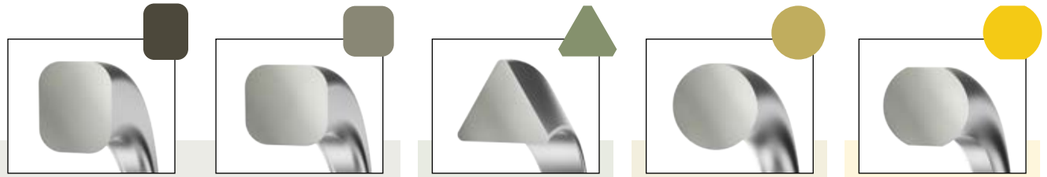
【Applications】 Mainly eye surgery to treat retinal detachment, strabismus, vitreous body disease, etc.

＊ If you do not see the needle tip type you are looking for here, please contact our sales staff.

Needle Body

MANI needles are available in roughly five different body shapes, each of which has a specific level of strength.
Please choose the one suitable for the tissue hardness,
body part, and technical and surgical procedures involved in each operation.
Below is a list of the most commonly used needle body types.

Body Cross - Section (Not mentioned in normal code)



Rectangular

The rectangular body type has the highest bending strength of all. MANI recommends use of these needles in cardiovascular surgery and other operations involving technical and surgical procedures that require the highest level of safety. This body type allows even the smaller needles to maintain their bending strength at a high level.

Square

Triangular

The body type is used in the R needle, the Q needle, and other triangular needles.

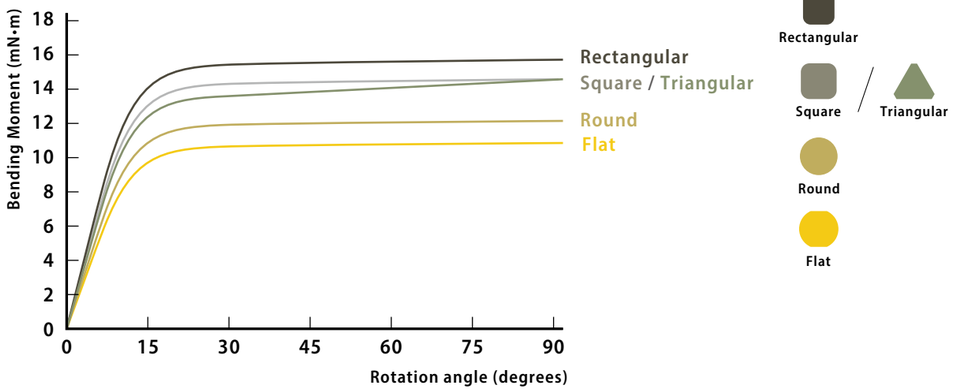
Round

This body type is rarely used, provided for data reference purposes.

Flat

This is the most commonly used body type of needles.
Its features include the ease of grip with forceps.

Bending (Φ0.30mm)



The graph above indicates the bending strength of the needles having different body shapes from a bending test in which each needle was bent at the center. The data demonstrates that the higher the needle type appears in the figure, the more resistant it is to bending.

Needle Curvature

MANI offers needles that come in a variety of curvatures suitable
for different technical and surgical procedures to meet the specific needs of doctors.
Below is a list of the most commonly used curvature types.

3/8 Circle

S Straight

Digestive tract, tendons, nasal cavity, skin, nerves, oral cavity, etc.

L 1/2 Curve

Laparoscopic surgery, etc.

K 1/4 Circle 90 deg.

Eye surgery, microsurgery, etc.

E 3/8 Circle 135 deg.

Skin, blood vessels, tendons, nerves, digestive tract, bile duct, dura mater, peritoneum, fascia, cardiac muscle, eyes, urinary organs, reproductive organs, pelvis, etc.

H 1/2 Circle 180 deg.

Skin, blood vessels, muscles, tendons, nerves, digestive tract, respiratory tract, nasal cavity, pharynx, bile duct, dura mater, peritoneum, fascia, cardiac muscle, thoracic cavity, eyes, urinary organs, reproductive organs, pelvis, etc.

F 5/8 Circle 255 deg.

Anus, pelvic cavity tissue, urinary organs, reproductive organs, nasal cavity, oral cavity, etc.

B Bi-Curve

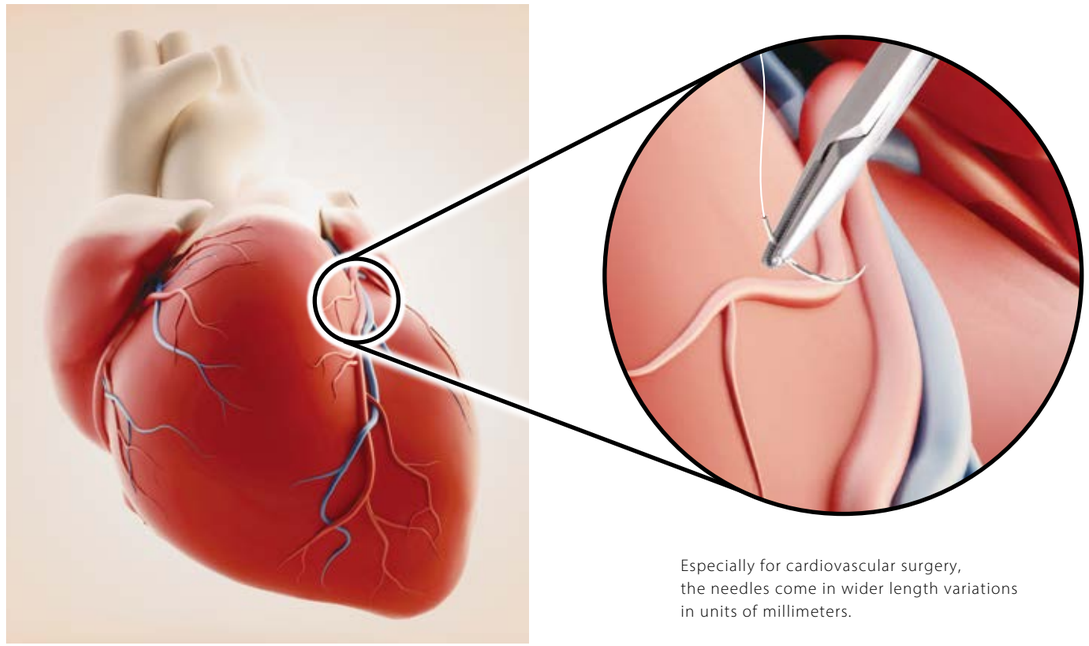
Laparoscopic surgery, etc.

* If you do not see the needle curvature type you are looking for here, please contact our sales staff.

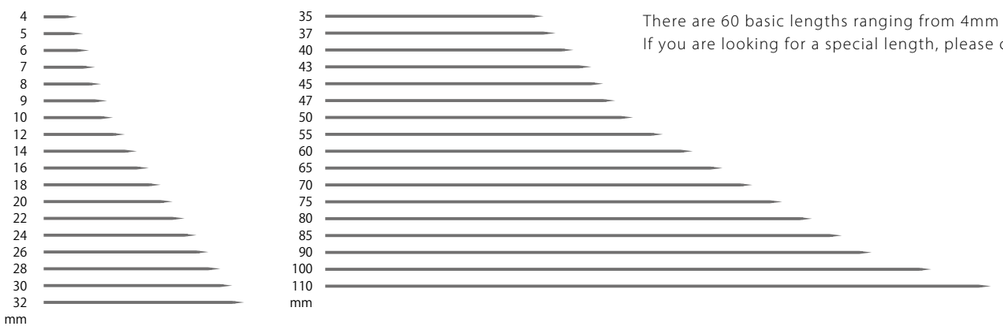
Needle Length

MANI needles come in a wide range of lengths in units of millimeters
for application to all types of surgical procedures.
The minimum needle length is 4mm while the maximum length is 110mm.
Each micro needle is packed with MANI's technological marvels.

Smallest size : 4mm
(Actual size)



Especially for cardiovascular surgery,
the needles come in wider length variations
in units of millimeters.



There are 60 basic lengths ranging from 4mm to 110mm.
If you are looking for a special length, please contact us.

Hole - Wire & USP - Hole Combination

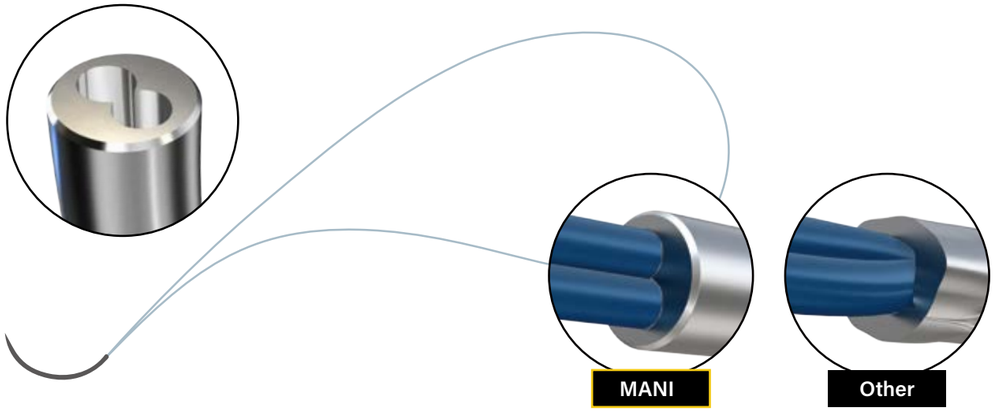
MANI Suture Needles can be used in combination with a wide variety of threads.
Because they are designed and manufactured utilizing MANI's drilling technology,
the holes are highly precise and uniform, allowing for smooth thread insertion and ensuring sufficient pull-out strength.
In addition, MANI's hole masking technology prevents silicone from entering the hole, and securely holds the thread firmly in place.

USP size	Suture Diameter Range (mm)	Hole Diameter (1/100 mm)	Wire Diameter (1/100 mm)
12-0	0.001～0.009	03 (0.03mm)	05、07、10
11-0	0.010～0.019	04 (0.04mm)	07、10
10-0	0.020～0.029	05 (0.05mm)	10、12、14
9-0	0.030～0.039	06 (0.06mm)	14、16、18、20、24
8-0	0.040～0.049	07 (0.07mm)	14、16、18、20、24、28
		08 (0.08mm)	16、18、20、24、28、30、33
7-0	0.050～0.069	09 (0.09mm)	18、20、24、28、30、33
		11 (0.11mm)	20、24、28、30、33
6-0	0.070～0.099	13 (0.13mm)	24、28、30、33、36、38
		15 (0.15mm)	28、30、33、36、38、43、48
5-0	0.10～0.149	17 (0.17mm)	33、36、38、43
		18 (0.18mm)	33、36、38、43
		20 (0.20mm)	33、36、38、43
4-0	0.15～0.199	22 (0.22mm)	38、43、53、58
		24 (0.24mm)	38、43、53
		26 (0.26mm)	43、48、53、58、63、68、73、78、88、98
		28 (0.28mm)	48、53、58
3-0	0.20～0.249	31 (0.31mm)	53、58、63、68、73、78、88、98
		33 (0.33mm)	58、63、68、73、78、88、98
		36 (0.36mm)	58、63、68、73、78、88、98
2.5-0	0.25～0.299	33 (0.33mm)	58、63、68、73、78、88、98
		36 (0.36mm)	58、63、68、73、78、88、98
2-0	0.30～0.349	38 (0.38mm)	63、68
		40 (0.40mm)	63、68、73、78、88、98、108、118、128
0	0.35～0.399	43 (0.43mm)	68、73、78、88、98、108、118、128
		44 (0.44mm)	68、73、78、88、98、108、118、128
		45 (0.45mm)	73、78、88、98、108、118、128
		47 (0.47mm)	73、78、88、98、108、118、128
		50 (0.50mm)	88、98、108、118、128
1	0.40～0.499	55 (0.55mm)	88、98、108、118、128、138、148、158
		58 (0.58mm)	98、108、118、128、138、148、158
2	0.50～0.599	64 (0.64mm)	98、108、118、128、138、148、158
		68 (0.68mm)	108、118、128、138、148、158
3,4	0.60～0.699	72 (0.72mm)	108、118、128、138、148、158
		74 (0.74mm)	108、118、128、138、148、158
		78 (0.78mm)	118、128、138、148、158
		80 (0.80mm)	128、138、148、158
5	0.70～0.799	82 (0.82mm)	128、138、148、158
		86 (0.86mm)	128、138、148、158
		88 (0.88mm)	128、138、148、158
		90 (0.90mm)	128、138、148、158
6	0.80～0.899	93 (0.93mm)	128、138、148、158
		95 (0.95mm)	128、138、148、158
		100 (1.00mm)	128、138、148、158
7	0.90～0.999	102 (1.02mm)	138、148、158
		108 (1.08mm)	138、148、158
		110 (1.10mm)	138、148、158
8	1.00～1.099	118 (1.18mm)	148、158
		120 (1.20mm)	148、158
9	1.10～1.199	128 (1.28mm)	158、168、178
		130 (1.30mm)	158、168、178

* For other hole and wire diameter sizes and their combinations, please contact our sales staff.
Reference source:USP Nonabsorbable Surgical Suture, USP43-NF38 2S(01-Dec-2020),
Table 1. Average Knot-Pull Limits of Various Sizes and Diameters of Sutures, USP Size, Limits on Average Diameter (mm)

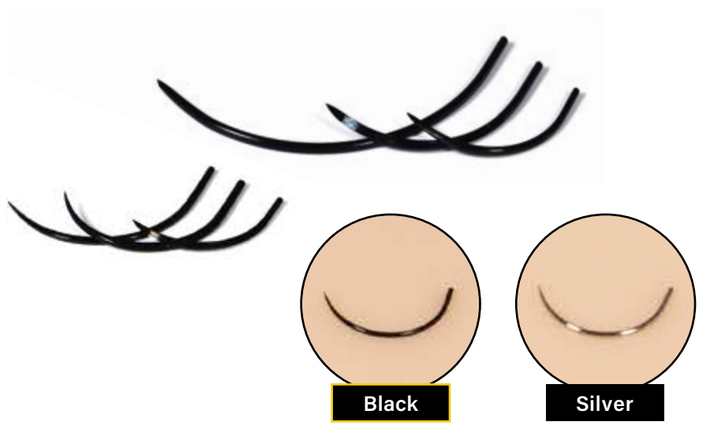
Double Hole Needle

With originally specialized processing technology,
MANI created a Double Hole Needle for loop sutures,
realizing superior thread attachment strength and contributing to aesthetic.



Black Needle

MANI black needles come with a non-reflective surface treatment
which allows for precise tissue penetration and better visibility
during surgical procedures where blood is present in operating field.
This black surface treatment is available for a variety of needle types.



Production factory

Following its corporate philosophy of contributing to the world welfare through development, production and distribution of the products beneficial to patients and doctors, MANI is conducting its business operations unwaveringly, with enthusiasm and persistence, always holding science near and dear to its heart.

Japan Head Office

Vietnam Factory

At the MANI group, "THE BEST QUALITY IN THE WORLD, TO THE WORLD" is the basis for our business. With this in mind, we are constantly researching quality information in the global market, implementing a program that will lead us to achieve the highest product quality globally in each quality category, and working tirelessly to achieve that goal.

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E-001-21 Oct.2023