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# Meril Endo-Surgery

In line with the objective to design and develop novel, clinically relevant, state-of-art surgical devices, Meril is expanding its endo-surgery franchise. At Meril, we strive to create and develop products through innovative thinking, cutting edge technologies and collaboration with medical professionals and healthcare organizations, with an aim to identify clinical needs and translate them into market-leading solutions.

Meril's vision is to become a 'one-stop' solution for surgeons by providing them with an extensive product portfolio comprising absorbable & non-absorbable surgical sutures, tissue sealants, absorbable hemostats, hernia repair meshes, intra uterine devices, energy devices and mechanical closure devices.





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## Wound Closure

Wounds which do not heal naturally are treated with wound closure devices. The affected tissues need to be kept in opposition until the healing process provides the wound with proper strength to stand against the stress without any assistance. A wound can be treated with the help of various devices such as sutures, staplers, topical adhesives or clips. Different tissues have their own unique functions and requirements. When one decides on a particular wound closure device, one must take care of the healing needs of the particular tissue which is being treated.

The most common device used for wound closure is suture. Sutures, in general term 'stitches', are sterilized surgical threads, which are used to ligate blood vessels or to approximate tissues.

#### Sutures are generally categorized as:

- Absorbable and Non-Absorbable
- Natural and Synthetic
- · Monofilament and Braided

Absorbable sutures have a tendency to degrade as the wound heals. Non-Absorbable sutures oppose the body's efforts to dissolve them. On complete healing of the wound, surgeons remove the non-absorbable sutures. Meril Endo-Surgery has a wide range of synthetic absorbable sutures which are made from Polyglactin 910 (MITSU family), Polydioxanone (FILAXYN), Poliglecaprone 25 (FILAPRON), Polyglycolic Acid (MEGASORB family) as well as non-absorbable sutures which are made from Polypropylene (FILAPROP), Polyamide (FILAMIDE) and Polyster (MERICRON XL). In natural absorbable sutures, Meril portfolio covers Chromic and Plain Catgut (MERISOFT) and in natural non-absorbable we have silk (FILASILK).

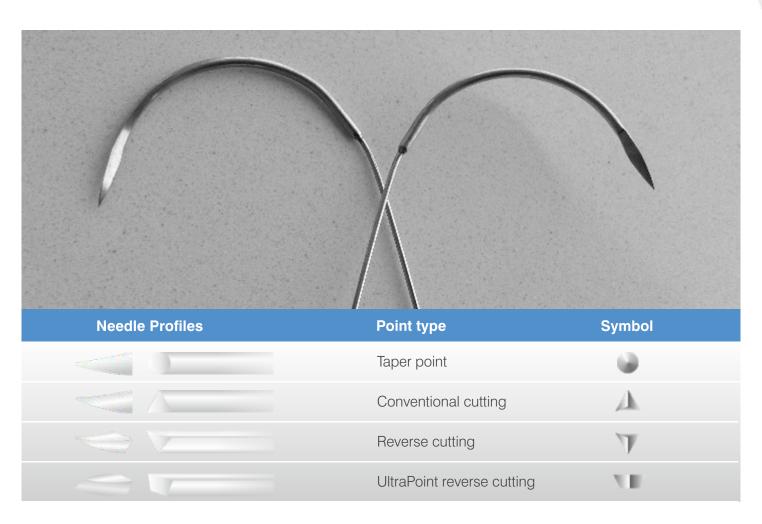
For placement of sutures, surgical needles are used, which are made of stainless steel. Different types and sizes of needles are used depending on the area of application. We are dedicated to assist surgeons in tissue repair by giving them a broad gamut of products with our unmatched quality and service.

### Meril Opthalmic Surgery Needles

In pursuit of offering best quality products, Meril sutures are paired with the superior stainless steel needles for an unparalleled surgical experience.

Meril sutures come with sharper and stronger needles Stainless Steel specifically designed to meet the ever growing needs in all the surgical disciplines

With every needle swaged using Multi Stroke Technology (MST) and tested for a needle pull check, Meril needles are distinguished with a high penetration coating and a square body design for a firm grip.



### Opthalmic Suture Types

Brand Name	Material	Duration of Wound Support	Common Uses
Absorbable			
MeriSoft Plain	Serosa or Submucosa	7-10 days	Superficial skin
MeriSoft Chromic	Serosa or Submucosa	21 days	Subcutaneous tissue
Mitsu	Polygalactin 910	21 days	Subcutaneous tissue, muscle reattachment, conjunctiva, cornea
Non-Absorbable			
Filamide	Nylon	NA	Cornea, sclera, skin
Filaprop	Polypropylene	NA	Superficial skin
Filasilk	Silk	NA	Traction sutures, lid margin

### Opthalmic Suture Size

Size	Common Uses
10-0	Cornea
9-0	Limbus, conjunctiva
8-0	Sclera
7-0	Muscle reattachment, conjunctiva, eyelid skin
6-0	Eyelid skin, traction sutures, muscle surgery
5-0	Brow, facial skin, levator advancement

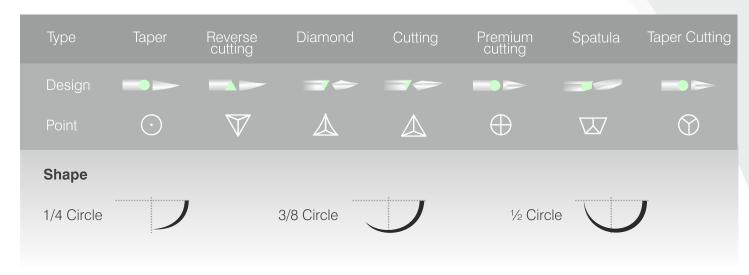
### Opthalmic Needle Types

Name	Description	Common Uses
Tapered	Cuts at the point and leaves behind the smallest hole surrounding the suture	Conjunctiva when you need a water-tight seal (e.g., trabeculectomy closure)
Cutting	Cuts on the inside curve	Some plastics uses; overall not common
Reverse Cutting	Cuts on the outside curve	Plastics, skin
Spatulated	Cuts on the lateral edges of the needle rather than the curve	Most common type of needle used for suturing sclera and tarsus

### Understanding Opthalmic Suture Codes

Meril code logic represents the necessary information needed to identify the required suture-needle combination. The suture codes are alphanumeric in nature to indicate the suture material, the suture size, and the reference code. The alphabetical suffixes are a key to understand the additional features about the suture and/or the needle.

### Opthalmic Needle Specifications



#### **Material Prefixes**

ABBREVIATION	MEANING
PGN	Polyglactin 910
PGP	Polyglactin 910 (with Chlorhexidine)
PGF	Polyglactin 910 Fast
MS	Polyglycolic Acid
MSP	Polyglycolic Acid (with Chlorhexidine)
MST	Polyglycolic Acid (with Triclosan)
SLK	Silk
SLS	Silk Non Needled
NYL	Polyamide
NYS	Polyamide Non Needled
PPL	Polypropylene

#### \*In case of

• Polyester (Mericron XL), codes start with ME6XX, ME6XXX, ME4XXX, MEXXXX; and polyester with pledgets (Mericron XL P), codes st

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### Opthalmic Suture Sizes

• For sutures having a single-digit size, the size is written as: zero followed by the size digit.

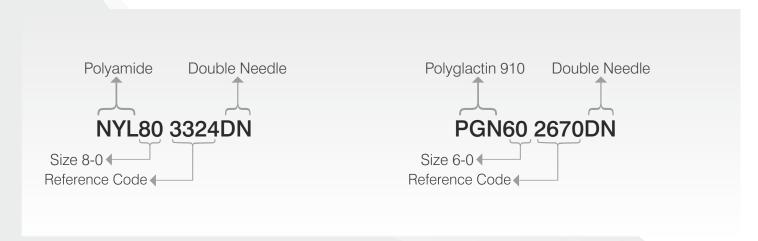
E.g.: Size 01 (read as size 1 according to USP), Size 03 (read as size 3 according to USP).

For finer sutures, the size is written as: the size digit followed by a zero.
 E.g.: Size 60 (read as size 6-0 according to USP), Size 70 (read as size 7-0 according to USP),
 Size 100 (read as size 10-0 according to USP)

### Suffixes

ABBREVIATION	MEANING
B/BL	Black Needle
BX	Black Needle; Extra Length Suture
DN	Double Needle
DNL	Double Needle; Long Length Suture
DS	Doctor Special Code
G	Green Suture
ML	Multi Strands
SL	Short Length Suture
U	Undyed Suture
V	Violet Suture
W	White Suture
Χ	Extra Pair of Suture
XF	Extra Fine Needle
XL	Extra Length Suture

### Decoding the Codes



### Opthalmic Needle Shapes



### Abbreviation for Specification

ABBREVIATION	MEANING
HC	1/2 CIRCLE
QC	1/4 CIRCLE
CU	3/8 CIRCLE
RC	REVERSE CUTTING
СТ	CUTTING
RB	ROUND BODIED
TC	TAPER CUTTING
SM	SPATULA
VIO	VIOLET
UND	UNDYED

### Needle Point Symbol

	TAPER CUTTING	SPATULA
	CUTTING	ROUND BODIED
$\blacksquare$	REVERSE CUTTING	



#### Polyglactin 910 Suture

#### **Properties**

- 75% of the original is retained until initial 14 Days
- 50% of the original is retained until initial 21 Days
- There is a subsequent loss between four to five weeks post implantation
- Complete absorption usually takes place between 56 to 70 Days

#### **Advantages**

- Smooth knot run-down/Knot slide
- Gentle knot repositioning
- Excellent knot security
- Minimal inflammatory reaction



#### **Product Overview**

Structure : Multifilament, Braided

Colour : Dyed, Undyed

Chemical composition : Poly (glycolide-co-l-lactide 90/10)

Coating : Poly(glycolide-co-l-lactide 30/70) + Calcium Stearate

Sizes : Dyed - USP 8/0 (metric 0.4) - USP 2 (metric 5)

: Undyed - USP 6/0 (metric 0.7 ) - USP 2 (metric 5)

Type of absorption : Hydrolysis
Sterilization : Ethylene oxide

Description	FG Code	Size	Needle Profile Shape, Type & Length	Suture Length (cm)	Pack Size	Suture Colour
MITSU (SYNTHETIC AB	SORBABLE BRA	AIDED COATED POL	YGLACTIN 910)			
PGLA VIO 6-0 X 45-8MM QC SM DN-3D	PGN602670DNZ	Z 6-0	8 mm 1/4 Circle Spatula Micropoint Spatula Micropoint	45	36	VIO
PGLA VIO 8-0 X 30-6MM CU SM DN	PGN80 2348DN	8-0	6 mm 3/8 Circle Spatula Micropoint Spatula Micropoint		12	VIO
PGLA VIO 8-0 X 30-08MM CU RB	PGN80 2301	8-0	8 mm 3/8 Circle Round Body	30	12	VIO

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#### Advantages

- Excellent handling properties
- Good knot security



Spatula Micropoint

#### **Product Overview**

Origin

CU SM

Structure : Braided Colour : Black

: Silkworm larval cocoons (Bombyx mori)

Composition : Natural silk filaments

Sizes : USP 8/0 (metric 0.4) - USP 2 (metric 5)

Sterilization : Gamma radiation

# FILAPROP<sup>™</sup>

#### Polypropylene Suture

#### **Advantages**

Smooth passage through tissue

• Minimal acute inflammatory reaction in tissues

Unsurpassed strength

Optimal elasticity and elongation properties

Available in Less Memory Tray (LMT)



#### **Product Overview**

Structure : Monofilament

Colour : Blue

Chemical composition : Polypropylene

Sizes : USP 10/0 (metric 0.2) - USP 2 (metric 5)

Sterilization : Ethylene oxide

Description	FG Code	Size		Needle Profile Shape, Type & Length	Suture Length (cm)	Pack Size	Suture Colour	Description FG Code Size Needle Profile Suture Pack Suture Shape, Type & Length Size Colour Length (cm)
FILASILK SILK SUTUR	E							FILAPROP (POLYPROPYLENE SUTURE)
SILK BLK 6-0 X 38-8MM CU RC	SLK60 5043	6-0	•	8 mm 3/8 Circle Reverse Cutting	38	12	BLACK	POLYPROPYLENE BU PPL50 827DN 5-0 5-0 X 70-12MM CU RB DN  12 mm 3/8 Circle 70 12 BLUE Round Body   Round Body
SILK BLK 8-0 X 30-6MM CU SM	SLK801822	8-0		6 mm 3/8 Circle Spatula Micropoint	30	12	BLACK	POLYPROPYLENE BU
SILK BLK 8-0 X 30-6MM CU SM DN	SLK805830	8-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK	6-0 X 45-12MM CU RC  Reverse Cutting
SII K BI K 9-0 X 90-6MM	SI K907059	9-0	W	6 mm 3/8 Circle	90	12	BLACK	



Polyamide Suture

#### Advantages

• Flexible, easy to handle and tie

• Smooth passage through tissue

• Excellent histocompatibility



**Product Overview** 

Structure : Monofilament

Colour : Black

Chemical composition : Polyamide 6 - 6.6

Sizes : USP 10/0 (metric 0.2) - USP 2 (metric 5)

Sterilization : Gamma radiation

Description	FG Code	Size		Needle Profile Shape, Type & Length	Suture Length (cm)	Pack Size	Suture Colour			
FILAMIDE (POLYAMID	FILAMIDE (POLYAMIDE SUTURE)									
POLYAMIDE BLK 8-0 X 15-6.5MM CU RB	NYL80 2808	8-0	•	6.5 mm 3/8 Circle Round Body	15	12	BLACK			
POLYAMIDE BLK 9-0 X 38-06MM CU RB SN	NYL90 3709	9-0	•	6 mm 3/8 Circle Round Body	38	12	BLACK			
POLYAMIDE BLK 9-0 X 13-05MM CU RB SN	NYL903905	9-0	•	5 mm 3/8 Circle Round Body	13	12	BLACK			
POLYAMIDE BLK 9-0 X 13-05MM CU RB	NYL90 2829	9-0	•	5 mm 3/8 Circle Round Body	13	12	BLACK			
POLYAMIDE BLK 9-0 X 38-6MM CU SM DN	NYL90 3714DN	9-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	38	12	BLACK			
POLYAMIDE BLK 9-0 X 38-6MM CU SM	NYL90 3715	9-0		6 mm 3/8 Circle Spatula Micropoint	38	12	BLACK			
POLYAMIDE BLK 9-0 X 25-6.5MM CU RB DN	NYL90 2800DN	9-0		6.5 mm 3/8 Circle Round Body   Round Body	25	12	BLACK			
POLYAMIDE BLK 9-0 X 30-6.5MM CU SM DN Page 11	NYL901717 I	9-0		6.5 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK			

Des	cription	FG Code	Size	Needle Profile Shape, Type & Length	Suture Length (cm)	Pack Size	Suture Colour
FIL	AMIDE (POLYAMIDE	SUTURE)					

FILAMIDE (POLYAMIDE S	SUTURE)						
POLYAMIDE BLK 10-0 X 30-6MM HC SM DN	NYL100 7000DN	10-0		6 mm 1/2 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK
POLYAMIDE BLK 10-0 X 38-06MM CU SM	NYL100 3718	10-0	<b></b>	6 mm 3/8 Circle Spatula Micropoint	38	12	BLACK
POLYAMIDE BLK 10-0 X 38-06MM CU SM DN	NYL100 3719	10-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	38	12	BLACK
POLYAMIDE BLK 10-0 X 13-06MM CU SM	NYL1007770	10-0	<u></u>	6 mm 3/8 Circle Spatula Micropoint	13	12	BLACK
POLYAMIDE BLK 10-0 X 30-6.5MM CU SM DN	NYL100 9003DN	10-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK
POLYAMIDE BLK 10-0 X 13-05MM CU RB	NYL100 2850	10-0	•	5 mm 3/8 Circle Round Body	13	12	BLACK
POLYAMIDE BLK 10-0 X 25-04MM CU RB	NYL100 3314	10-0	•	4 mm 3/8 Circle Round Body	25	12	BLACK
POLYAMIDE BLK 10-0 X 20-06MM CU SM DN	NYL100 3717DN	10-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	20	12	BLACK
POLYAMIDE BLK 10-0 X 38-6MM CU SM	NYL100 3720	10-0		6 mm 3/8 Circle Spatula Micropoint	38	12	BLACK
POLYAMIDE BLK 10-0 X 30-6MM CU SM DN	NYL100 7003DN	10-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK
POLYAMIDE BLK 10-0 X 30-6.5MM CU SM	NYL100 7061	10-0	<u></u>	6.5 mm 3/8 Circle Spatula Micropoint	30	12	BLACK
POLYAMIDE BLK 10-0 X 90-5MM HC SM	NYL1007000	10-0	$\bigcup$	5 mm 1/2 Circle Spatula Micropoint	90	12	BLACK
POLYAMIDE BLK 10-0 X 13-3.8MM CU RB	NYL100 2870	10-0	•	3.8 mm 3/8 Circle Round Body	13	12	BLACK
POLYAMIDE BLK 10-0 X 30-5.5MM HC SM DN	NYL100 9000DN	10-0		5.5 mm 1/2 Circle Spatula Micropoint   Spatula Micropoint	30	12	BLACK
POLYAMIDE BLK 8-0 X 38-6MM CU RB	NYL80 3708	8-0	•	6 mm 3/8 Circle Round Body	38	12	BLACK
POLYAMIDE BLK 8-0 X 38-6MM CU SM	NYL80 3322	8-0		6 mm 3/8 Circle Spatula Micropoint	38	12	BLACK
POLYAMIDE BLK 8-0 X 38-6MM CU SM DN	NYL80 3324DN	8-0		6 mm 3/8 Circle Spatula Micropoint   Spatula Micropoint	38	12	BLACK
POLYAMIDE BLK 8-0 X 38-6MM CU RC	NYL80 3343	8-0	<b>▼</b>	6 mm 3/8 Circle Reverse Cutting	38	12	BLACK
POLYAMIDE BLK 8-0 X 13-5MM CU RB	NYL802812	8-0	•	5 mm 3/8 Circle Round Body	13	12	BLACK

Note:	Note: