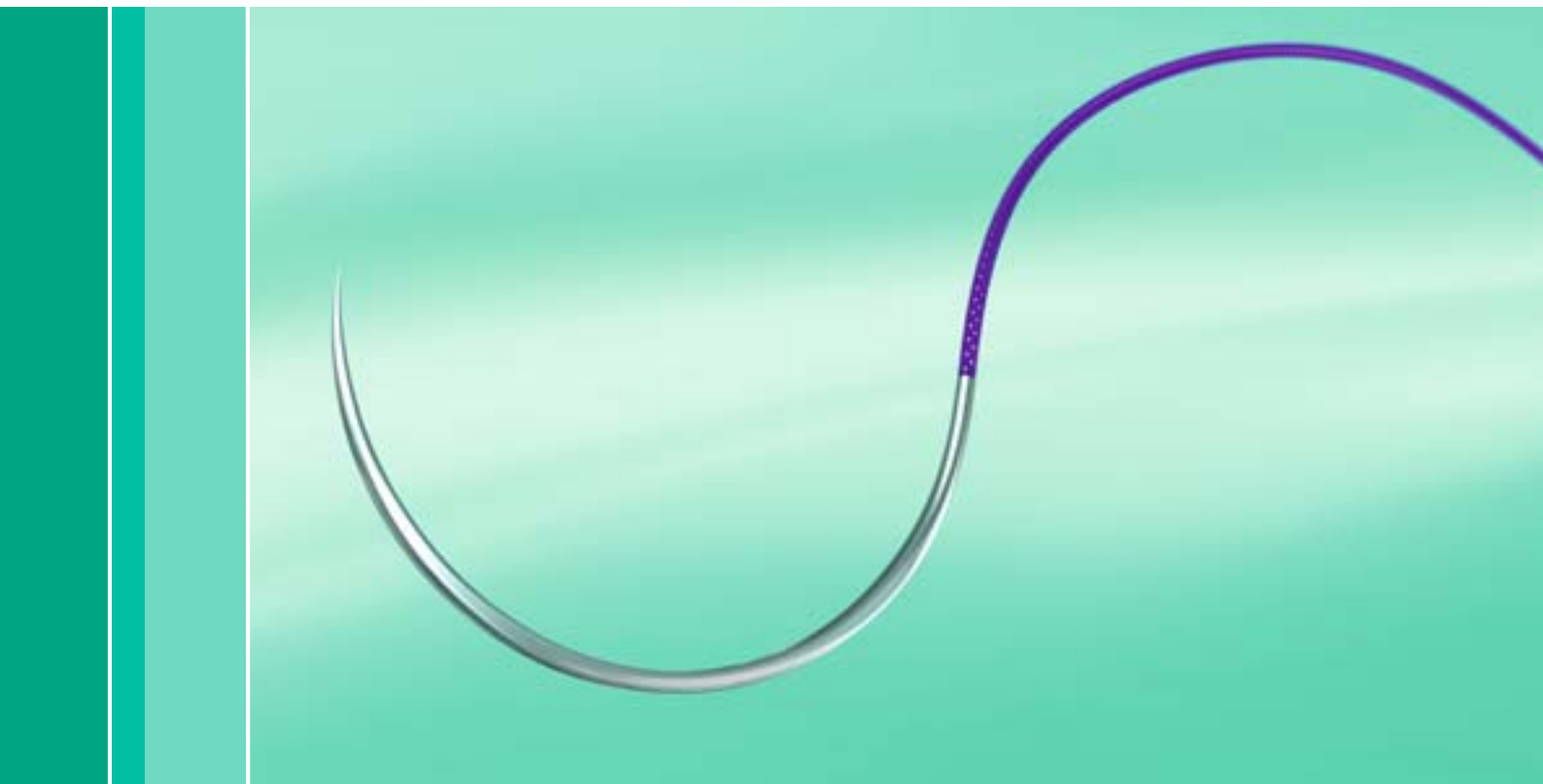


Novosyn[®]

The new PGLA suture generation

Mid-term synthetic absorbable braided and coated suture made of Poly(glycolide-co-l-lactid 90/10)



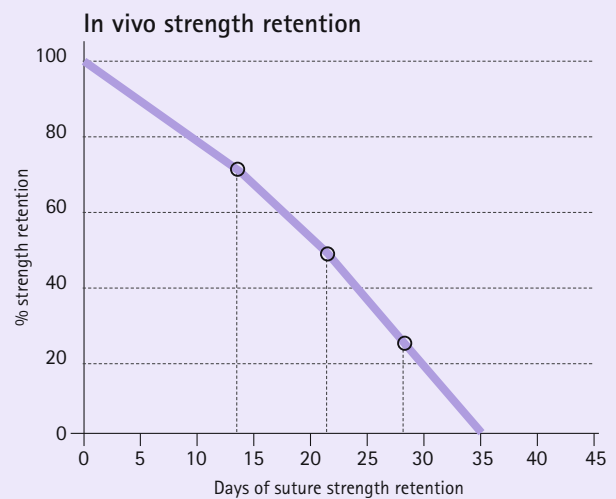
Sutures

The new PGLA suture generation

Ideal and secure degradation profile

Novosyn®, the new PGLA suture generation consists of braided Poly(glycolide-co-L-lactid 90 / 10) filaments

The high initial tensile strength of the Poly-(glycolide-co-L-lactid 90 / 10) polymer provides the needed critical wound support to assure a secure and undisturbed tissue healing.



Novosyn® is a mid-term absorbable suture:

75 % initial tensile strength	14 days
50 % initial tensile strength	21 days
25 % initial tensile strength	28 days
Complete mass absorption	56 - 70 days

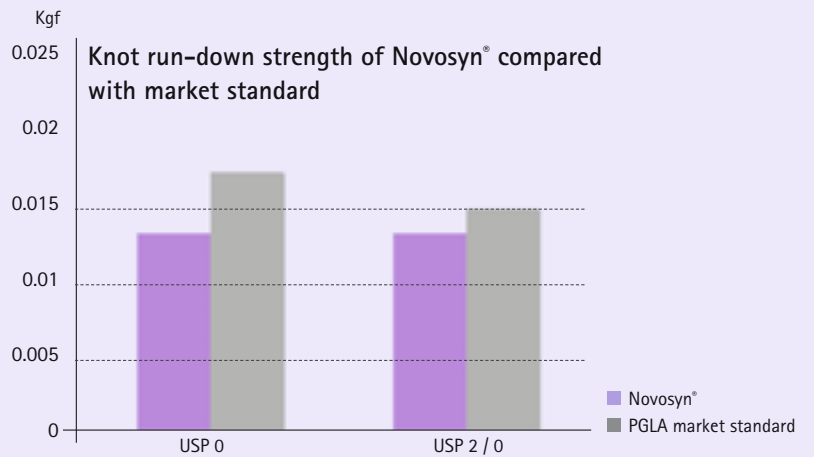


Novosyn® is indicated for general soft tissue approximation and / or ligation in all surgical specialities, where the surgical practice requires the use of a synthetic, mid-term absorbable, braided suture material.

Tissue Layer / Surgical Speciality	Frequently used needle
Muscular Layers	HR30 – HR76 / HRT37 – HRT80 / HRC37 – HRC80
Visceral surgery (Gastro Intestinal, Biliary & Urology)	HR10 – HR30 / FR26 – FR40
Subcutaneous	HR13 – HR26
Tendons, Ligaments & Fascia closure in Traumatology & Orthopedic surgery	HS15 – HS48 / 2xGS13
General Skin Closure	DS9 – DS35 / DSMP19 – DSMP24 / GS60
Minimal Invasive Surgery (M.I.S.)	DR / SKI / PRC / GR / DRT
Ophthalmic sutures	DRm / HLm / DLm / HLM / VLM
Ligatures	

Excellent knotting performance

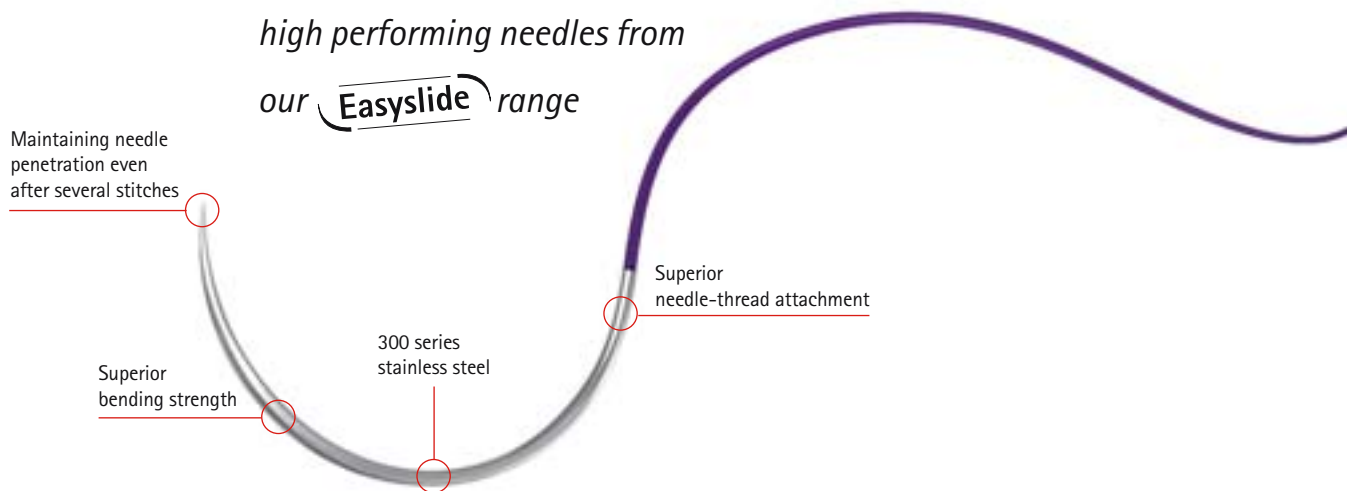
- **Easy and smooth knot run-down**
 Unmatched performance from the first to the last throw, friction-free passing over the suture
- **Gentle knot repositioning**
 Enables the surgeon to snug down the knot to the precise position required
- **Highest knot holding capacity**
 Novosyn® conveniently holds aligned wound edges together ensuring a secure closure during the complete healing process



Source: internal comparison study Novosyn® vs. Industrial market standard

Novosyn® provides a very easy and smooth knot run-down. Giving the surgeon complete and unlimited control. Graph shows Novosyn® knot run-down values compared with current PGLA market standards.

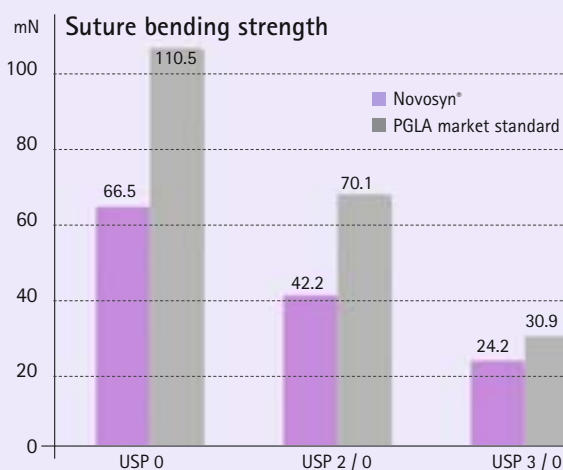
Novosyn® is available with
 high performing needles from
 our **Easyslide** range



The new PGLA suture generation

Enhanced pliability

The enhanced pliability of Novosyn® provides the surgeon with 100 % control in handling of the suture.



Source: internal comparison study Novosyn® vs. Industrial market standard

Minimized inflammatory reaction

Internal comparison studies have shown that Novosyn® minimizes the tissue reaction that can be caused by sutures.



Novosyn®
*Providing freedom
 to the surgeon*

Section weeks	Implant	Inflammation
4	Novosyn®	1.13
	Market standard	1.60
6	Novosyn®	1.27
	Market standard	1.53
8	Novosyn®	1.20
	Market standard	1.80
10	Novosyn®	1.27
	Market standard	1.60
12	Novosyn®	1.00
	Market standard	1.47

Infiltration of inflammation cells; Score 0: none, Score 1: 2 - 3 cell layers, Score 2: 4 - 6 cell layers, Score 3: > 6 cell layers

* internal comparison study Novosyn® vs. Industrial market standard

The new PGLA suture generation

- Smooth knot run-down
- Gentle knot repositioning
- High knot holding capacity
- Minimized inflammatory reaction
- High quality **Easyslide** needles
- Open surgery and M.I.S. needle / thread combinations























B. Braun is one of the world's leading healthcare supplier with different production facilities all over Europe. Novosyn® is produced at our Centre of Excellence for Closure Technologies in Spain where B. Braun aims to satisfy the highest quality demands, ensured by a finely tuned integral quality and environment management system.










Novosyn®











Product Features





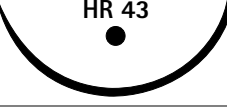






Structure	Multifilament
Chemical composition	Poly(glycolide-co-l-lactid 90 / 10)
Colour	Violet
Coating	Poly(glycolide-co-l-lactid 35 / 65) + CaSt
Size	USP 2 (metric 5) - USP 8 / 0 (metric 0.4)
Tensile strength retention	50 % tensile strength retention at 21 days 0 % tensile strength retention at approx. 35 days
Mass Absorption	Hydrolysis, complete mass absorption in 56 till 70 days
Indication	General soft tissue approximation and / or ligation in all surgical specialties
Sterilization	Ethylene oxide (EO)









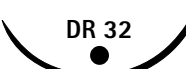
angle	Needle		Thread length cm colour	USP metric							
	length mm	diameter microns		10/0 0.2	9/0 0.3	8/0 0.4	7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2
3/8 circle micro-needle taper point											
135°	DRm 6 	140µ	20 violet			G0068145					
1/2 circle micro-lancet needle											
160°	2xHlm 6 	150µ	30 violet			G0068715					
3/8 circle micro-lancet needle											
140°	DLm 6 	150µ	15 violet			G0068615					
140°	2xDLm 6 	150µ	30 violet			G0068702					
137°	DLm 6s 	200µ	30 violet			G0068620	G0068621				
137°	2xDLm 6s 	200µ	30 45 violet			G0068710	G0068711				
1/2 circle lancet needle with micro-point											
170°	2xHLM 8 	330µ	45 violet					G0068966			
1/4 circle lancet needle with micro-point											
90°	2xVLM 6 	240µ	30 violet					G0068616			
90°	2xVLM 8 	330µ	45 violet					G0068734	G0068735		
90°	2xVLM 8 	430µ	45 violet							G0068736	





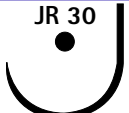
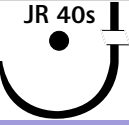



Needle length mm	Thread length cm colour	USP metric							
		6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5
1/2 circle round bodied needle									
 HR 10	70 violet	C0068002	C0068003						
 HR 13	45 70 violet	C0068449 C0068006	C0068450 C0068007	C0068451 C0068008					
 HR 13 "Take off"	4x45 violet			C0088719					
 HR 13ss	70 violet					C0068110	C0068111		
 HR 17	70 violet	C0068011	C0068012	C0068013	C0068014	C0068015			
 HR 17 "Take off"	4x45 4x70 violet			C0088713 C0088613	C0088714 C0088614				
 2xHR 17	70 90 violet		C0068869		C0068904				
 HR 17s	70 violet			C0068113	C0068114				
 HR 20	70 violet				C0068766				
 HR 22	20 70 violet			C0068029	C0068069 C0068030	C0068004 C0068031	C0068032		
	90 120 violet				C0068877 C0068078	C0068880			










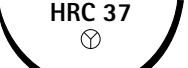

Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle										
 HR 22	4x45		C0088729	C0088730	C0088731					
	4x70 violet		C0088629	C0088630	B0088631					
"Take off"										
 2xHR 22	90 violet			C0068874	C0068875					
 HR 22s	70 violet				C0068036	C0068037	C0068038			
 HR 26	20			C0068079	C0068018					
	70 violet		C0068040	C0068041	C0068042	C0068043	C0068044			
	90 120 violet		C0068540	C0068541 C0068088	C0068542 C0068067	C0068543	C0068544			
 HR 26	4x45		C0088740	C0088741	C0088742					
	4x70 violet		C0088640	C0088641	C0088642					
"Take off"										
 2xHR 26	70 90 violet			C0068901	C0068902	C0068907				
 HR 26s	45 70 90 violet			C0068089 C0068589	C0068019 C0068090 C0068590	C0068091 C0068591	C0068092 C0068592	C0068093 C0068613		
 HR 26s	4x45				C0088790	B0088791	B0088792	B0088793		
	4x70 violet					B0088691	B0088692	B0088693		
"Take off"										
 HR 26ss	70 violet					C0068791	C0068100			



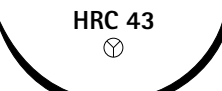
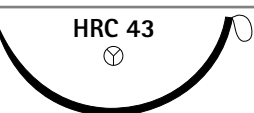

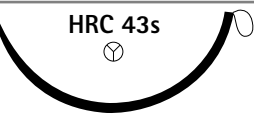

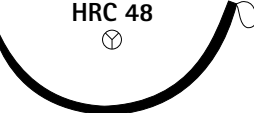

Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle										
 HR 26ss "Take off"	4x45 violet					C0088810				
 HR 30	70 90 violet			C0068046	C0068047 C0068447	C0068048 C0068448	C0068049	C0068045		
 HR 30 "Take off"	4x45 4x70 violet					B0088762 B0088661	B0088662			
 HR 30s	70 violet					C0068547	C0068548	C0068549		
 HR 37	70 90 violet			C0068050 C0068550	C0068051 C0068551	C0068052 C0068552	C0068053 C0068553			
 HR 37 "Take off"	4x45 4x70 violet			C0088769 C0088669	C0088770 B0088670					
 HR 37s	70 90 violet			C0068094 C0068955	C0068095 C0068595	C0068096 C0068956	C0068097 C0068597	C0068098 C0068598		
 HR 37s "Take off"	4x45 4x70 violet			C0088794	C0088795 B0088695	B0088796 C0088696	B0088797 B0088697	B0088798 B0088698		
 HR 37ss	70 90 violet					C0068122 C0068576	C0068123 C0068577			
 HR 37ss "Take off"	4x45 violet					B0088806	B0088807			


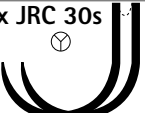





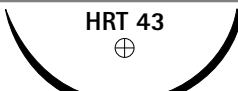

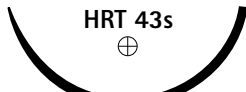
Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle										
 HR 40s	70					C0068055	C0068056	C0068057	C0068058	
	90 violet				C0068466	C0068467	C0068556	C0068557	C0068558	
 HR 40s "Take off"	4x45 4x70 violet						B0088766	B0088767 B0088667	B0088768 B0088668	
 HR 40s Loop	150 violet							B0068350		
 HR 43	70 90 violet						C0068946	C0068947 C0068847	C0068948 C0068848	
 HR 43 "Take off"	4x45 violet							B0088781	B0088782	
 HR 48	70 90 violet			C0068099		C0068060 C0068560	C0068061 C0068561	C0068062 C0068562	C0068063 C0068563	
 HR 48 "Take off"	4x45 4x70 violet						B0088786	B0088787	B0088788 B0088688	
 HR 60	70 violet							C0068066	C0068068	
 HR 60 Loop	150 violet							B0068380		
 HR 65	90 150 violet								C0068640 B0068940	
 HR 65 "Take off"	4x70 violet							B0088655	B0088656	









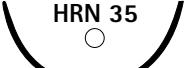
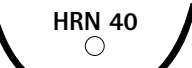
Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle										
 HR 65	150 240 violet							B0068919	B0068930	
 HR 70	70 violet							C0068183		
 HR 76	70 violet				C0068074	C0068075	C0068076	C0068077		
Needle length mm	Thread length cm colour	USP metric								
		7/0 0.5	6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	
3/8 circle round bodied needle										
 DR 10	45 violet	C0068101		C0068103						
 DR 12	45 70 violet		C0068434	C0068134 C0068435						
 DR 18	70 violet				C0068150	C0068151				
 DR 22	70 violet				C0068159	C0068160	C0068161			
 DR 26	70 violet					C0068164	C0068165			
 DR 32	70 violet					C0068170	C0068171	C0068172	C0068173	












Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
5/8 circle round bodied needle										
 FR 26	70			C0068414	C0068415	C0068416	C0068417			
	90 violet				C0068775					
 2xFR 26	70		C0068813		C0068815	C0068817				
	90 violet				C0068820	C0068828				
 FR 36	70				C0068425	C0068426	C0068427			
	violet									
 FR 40	70					C0068490	C0068491			
	90 violet					C0068866	C0068867			
Hook needle with taper point										
 JR 30	70				C0068475					
	violet									
 JR 40s	70						C0068478			
	violet									
Round bodied ski needle										
 SKR 19	20		C0068752							
	120 violet		C0068755	C0068756	C0068757					
 SKR 26	20			C0068746	C0068749					
	120 violet			C0068744	C0068751					
 SKR 26	40			C0068745						
	violet									






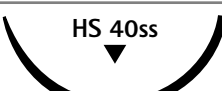
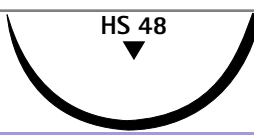


Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
Straight round bodied needle										
GR 19 	20 violet		C0068281	C0068284						
GR 51 	90 violet					C0068185				
1/2 circle round bodied needle with short cutting tip										
HRC 17 	70 violet	C0068312	C0068313	C0068314	C0068315	C0068316				
HRC 20s 	70 violet				C0068785					
HRC 22 	70 violet				C0068331	C0068332	C0068333			
HRC 26 	70 violet					C0068343				
HRC 26s 	70 violet				C0068441		C0068444			
HRC 30 	70 violet			C0068373	C0068372	C0068371	C0068374			
HRC 30s 	90 violet						C0068375			
HRC 37 	70 90 violet			C0068139	C0068361 C0068140	C0068362 C0068141	C0068363 C0068142	C0068143		
HRC 37s 	70 90 violet				C0068842 C0068894	C0068843 C0068895	C0068844 C0068896	C0068897		



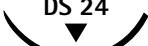







Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle with short cutting tip										
 HRC 40	70 violet					C0068908	C0068909			
 HRC 40s	70 violet							C0068960		
 HRC 43	90 violet					C0068976		C0068978		
 HRC 43	150 violet Loop						C0068872	B0068873		
 HRC 43s	70 90 violet							C0068627	C0068628 C0068983	
 HRC 43s	150 violet Loop						B0068601	B0068602		
 HRC 48	70 90 violet						C0068573	C0068964 C0068574	C0068575	
 HRC 48	150 violet Loop							B0068987	B0068988	
 HRC 80	90 violet							G0068657		

Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
Hook needle with short cutting tip										
 JRC 30s	70							C0068476		
	120 violet						C0068194			
 2 x JRC 30s	45							C0068479		
	violet									
Progressive curved tapercutting needle										
 PRC 24	120					C0068807				
	violet									
1/2 circle round bodied needle with trocar point										
 HRT 37	70					C0068392	C0068393	C0068391		
	90 violet			C0068650	C0068651	C0068652	C0068653	C0068654		
 HRT 37s	70					C0068395	C0068396	C0068397		
	90 violet					C0068532	C0068533	C0068534	C0068535	
 HRT 40	70					C0068023	C0068024			
	violet									
 HRT 40s	70							C0068484		
	violet									
 HRT 43	90					C0068997		C0068472		
	violet									
 HRT 43	150						C0068346	B0068347		
	violet									
 HRT 43s	70							C0068474	C0068353	
	90 violet							C0068534	C0068473	

Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied needle with trocar point										
 HRT 43s ⊕ Loop	150 violet						B0068356	B0068357		
 HRT 48 ⊕	70 90 violet						C0068501	C0068402 C0068502	C0068503	
 HRT 48 ⊕ Loop	150 violet							B0068370	B0068918	
 HRT 80 ⊕	90 violet							G0068788		
3/8 circle round bodied needle with trocar point										
 DRT 18 ⊕	70 violet		C0068320	C0068321						
 DRT 22 ⊕	70 violet			C0068377						
 DRT 26 ⊕	70 violet					C0068383				
 DRT 32 ⊕	70 violet					C0068386	C0068387	C0068309		
1/2 circle round bodied blunt pointed needle										
 HRN 35 ○	70 violet					C0068517				
 HRN 40 ○	90 violet							C0068637		

Needle length mm	Thread length cm colour	USP metric								
		5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	3 6	
1/2 circle round bodied blunt pointed needle										
 HRN 50	90 violet					C0068663	C0068664			
 HRN 50s	90 violet						C0068228	C0068229		
1/2 circle reverse cutting needle										
 HS 15	45 70 violet	C0068203	C0068204 C0068250							
 HS 21	45 violet		C0068225	C0068226						
 HS 23	45 70 violet			C0068230 C0068430	C0068431					
 HS 23	4x45 violet	"Take off"		C0088836						
 HS 26	70 violet			C0068241	C0068242	C0068243				
 HS 26s	70 violet				C0068290	C0068291				
 HS 26ss	70 violet								C0068084	
 HS 30	70 violet				C0068251	C0068252	C0068253			
 HS 37	90 violet			C0068494	C0068495	C0068496	C0068497	C0068498		

Needle length mm	Thread length cm colour	USP metric								
		6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5	
1/2 circle reverse cutting needle										
 HS 37s	70						C0068294	C0068296	C0068297	C0068298
	90 violet						C0068596	C0068582	C0068583	C0068599
 HS 37ss	70 violet						C0068085	C0068086	C0068087	
 HS 37ss "Take off"	3 x 45 violet							B0088701		
 HS 40	90 violet						C0068485	C0068486	C0068487	C0068488
 HS 40s	70						C0068267	C0068268	C0068269	
	90 violet						C0068585	C0068586	C0068587	C0068588
 HS 40ss "Take off"	3 x 45 violet								B0088911	
 HS 48	70							C0068261	C0068262	
	90							C0068461	C0068462	C0068463
	violet									
3/8 circle reverse cutting needle										
 DS 9	45 violet	C0068202								
 DS 12	45	C0068206	C0068207	C0068208						
	70 violet		C0068507	C0068508						

Needle length mm	Thread length cm colour	USP metric							
		6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5
3/8 circle reverse cutting needle									
DS 16 	45 70 violet		C0068212	C0068213 C0068513	C0068214 C0068514				
DS 19 	45 70 violet		C0068219 C0068419	C0068220 C0068420	C0068221 C0068421	C0068422			
DS 24 	70 violet			C0068234	C0068235	C0068236	C0068237		
DS 24  "Take off"	4x45 violet				C0088953				
DS 30 	70 violet				C0068246	C0068247	C0068248	C0068249	
DS 35 	70 violet							C0068258	
3/8 circle reverse cutting needle with micro-point									
DSMP 19 	70 violet			C0068823	C0068824				
DSMP 24 	70 violet				C0068864	C0068865			
Straight cutting needle									
2 x GS 13 	45 violet			C0068920					
GS 60 	70 violet				C0068265	C0068266			

Pre-cut sutures

	Thread length cm colour	USP metric							
		6/0 0.7	5/0 1	4/0 1.5	3/0 2	2/0 3	0 3.5	1 4	2 5
Pre-cut sutures									
3 threads of 45 cm	3 x 45 violet			C0058624	C0058625	C0058626	C0058627	C0058629	C0058630
6 threads of 45 cm	6 x 45 violet		C0058643	C0058644	C0058645	C0058646	C0058647	C0058649	C0058650
12 threads of 45 cm	12 x 45 violet			C0058664	C0058665	C0058666	C0058667	B0058669	B0058670
10 threads of 60 cm	10 x 60 violet		C0058180	C0058181	C0058182	C0058183	C0058567	C0058568	
2 threads of 70 cm	2 x 70 violet			C0058404	C0058405	C0058406	C0058407	C0058409	C0058410
5 threads of 70 cm	5 x 70 violet			C0058444	C0058445	C0058446	C0058447	C0058449	C0058450
1 thread of 140 cm	1 x 140 violet			C0058204	C0058205	C0058207	C0058208	C0058209	C0058210
1 thread of 150 cm	1 x 150 violet						B0058707	B0058709	B0058708
Ligature reels									
1 thread of 250 cm	1 x 250 violet				G0058715	G0058716	G0058717	G0058719	G0058720



B. Braun Surgical SA | Carretera de Terrassa, 121 | 08191 Rubí | Spain
Phone +34 93 5 86 62 00 | Fax +34 93 6 99 73 03 | www.bbraun.es

Aesculap AG | Am Aesculap-Platz | 78532 Tuttlingen | Germany
Phone +49 (0) 74 61 95-0 | Fax +49 (0) 74 61 95-26 00 | www.aesculap.com

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