

HICKMAN® SUBCUTANEOUS PORTS & HICKMAN®/BROVIAC® CATHETERS

HICKMAN® SUBCUTANEOUS PORTS: USE AND MAINTENANCE INSTRUCTIONS

NOTE: The needle hub should never be left open to air while in the port. Do not manipulate the needle once it is in the septum.

SITE PREPARATION
Wash hands and clean the insertion site. The insertion site should always be prepared prior to accessing the port. Wash hands and clean the insertion site. Rub the area with antiseptic swabs until the site is completely dry. A 2-inch diameter area is required. Do not use an area > 1 inch of diameter.

ACCESSING THE PORT
Use aseptic technique to access the port. Use aseptic technique and sterile equipment. Insert the port access to patients directly into the port. Do not use the port access to draw blood. Advance the needle through the skin and septum until the needle hub is flush with the normal needle placement by blood aspiration. Insert with aseptic technique.

BOLUS INJECTION
Flush the port with 1 mL of normal saline. Flush with 1 mL of normal saline. Flush with 1 mL of normal saline.

CONTINUOUS INFUSION
Flush the port with 1 mL of normal saline. Flush with 1 mL of normal saline. Flush with 1 mL of normal saline.

BLOOD SAMPLING
Flush the port with 1 mL of normal saline. Flush with 1 mL of normal saline. Flush with 1 mL of normal saline.

HEPARIN LOCK
To help prevent the formation and catheter blockage, the Hickman Subcutaneous Port should be flushed with 1 mL of normal saline after each use. If the port is unused for a long period of time, the heparin lock should be changed as follows:
Heparin locked system: Flush at least once a week. Intravenous system: Flush at least once every four weeks. Intravenous system: Flush after each use.
Lock and secure the port. Flush with 1 mL normal heparin normal saline.*

NON-CORING NEEDLE
Only non-coring needles should be used with any subcutaneous port including the Hickman Subcutaneous Port. The non-coring needle has a beveled point that helps avoid clogging.

HICKMAN® SUBCUTANEOUS PORTS: FLOW RATE CAPABILITIES (Average ml/hr)

Catalog Numbers	Lumen Size	Gravity			Pump		
		Normal Saline	D50W	Packed Cells	Normal Saline	D50W	Packed Cells
Port with Large Venous Catheter							
60201, 60204, 60212, 60214, 60221, 60225, 60226, 60227, 60261, 60264, 60266, 60268	1.6mm	>500	>500	281	>500	>500	>500
Port with Small Venous Catheter							
60202, 60205, 60213, 60215, 60222, 60224, 60228, 60229, 60262, 60265, 60267, 60269	1.0mm	>500	287	85	>500	>500	>500
Small Port with Small Venous Catheter							
60218, 60219	1.0mm	>500	287	85	>500	>500	>500
Port with Venous Dual Lumen Catheter							
60216, 60217	1.3mm	>500	>448	220	>500	>500	>500
Port with Beaded Arterial Catheter							
60200, 60203, 60223, 60225, 60260	0.9mm	136			>500		
Port with Peritoneal Catheter							
60300	2.6mm	>500	>500		>500	>500	

HICKMAN SUBCUTANEOUS PORTS: TROUBLESHOOTING GUIDE

Problem	Possible Cause	Nursing Intervention
Erythema	Infected incision or port pocket, poor healing postoperatively	Assess daily for redness/drainage. Notify physician. Antibiotics per physician's order.
Inability to flush or withdraw from system	Kinked IV tubing Pump malfunction Catheter kinked against the vein wall Incorrect needle placement	Check tubing Check equipment Reposition patient by turning upper torso and arms. Flush with normal saline. Reposition needle and advance up to the bottom of the meniscus. Verify correct positioning by blood aspiration.
Fibrin sheath formation		Flush with 3 mL of sterile normal saline and repeat if necessary. Increase frequency of flushing as prevention. Use fibrinolytic agent such as streptokinase per physician's order. Use fibrinolytic agent such as streptokinase per physician's order.
Obstruction (clots)		Contact physician to evaluate for possible removal or revision.
Burning sensation in subcutaneous tissue	Dislodgement of needle into subcutaneous tissue	Do not remove needle. Stop infusion and immediately notify a physician.

HICKMAN® CATHETERS: REPAIR PROCEDURE*

Repair Kit Contents:

- All Catheter Repair kit contains a packaged needle and contains the following:
 - Clamped replacement segment
 - Split sheath
 - Split sheath (included on replacement segment (one per lumen))
 - Injection cap and drape (one per lumen)
 - Medical adhesive
 - Heparin
 - Heparin D50W syringe
 - Instructions for use

* Note: The repair kit contains a packaged needle and contains the following: Clamped replacement segment, split sheath, split sheath (included on replacement segment (one per lumen)), injection cap and drape (one per lumen), medical adhesive, heparin, heparin D50W syringe, and instructions for use.

- Clamp the damaged catheter immediately with an appropriate clamp over the skin exit site to avoid blood loss or air embolism.
- The damaged catheter can be repaired if approximately 1/2 inch of undamaged tubing remains above the skin site. If the remaining segment is less than 1/2 inch, the entire catheter should be replaced.
- Repair of the Hickman catheter is a sterile procedure. To repair:
 - Clean the following supplies in addition to the repair kit: alcohol swabs, sterile saline, drape, a 4-gauge 1 1/2-inch glove, alcohol or soap.
 - Wash hands and clean the damaged catheter with appropriate swabs. Allow to air dry, and wipe excess with alcohol swab or gauze.
 - Change into second pair of gloves and clean the powder from these with alcohol swabs.
 - Load catheter into storage bag, insert plunger and attach heparin syringe.
 - Remove damaged portion of catheter by cutting the tubing at a 45° angle. (Figure 1)
- Apply adhesive to the inside of the tubing, and slide the split sheath into position, ensuring it sits over the repair section. (Figure 2)
- Using the blunt needle, insert adhesive under both ends of the split sheath. Roll the sheath between fingers to evenly spread adhesive and wipe away excess with gauze pad. (Figure 3)
- Slide the repair piece with a tongue block and tape. (Figure 4)
- Clamp and secure air remaining to repair segment. (Figure 5)
- Grilly flush the catheter with heparin solution.

CAUTION: Excess pressure may rupture the port.

If necessary, the catheter may be used for infusion after 4 hours. To achieve full strength, the repaired portion must remain clamped for 48 hours and then may be removed.

HICKMAN AND BROVIAC CATHETERS: FLOW RATE CAPABILITIES (Average ml/hr)

Catheter French Size	Lumen Size	Gravity			Pump		
		Normal Saline	D50W	Packed Cells	Normal Saline	D50W	Packed Cells
Single Lumen Catheters							
Broviac 2.7Fr	0.5mm	49	20	10	>500	248	53
Broviac 4.2Fr	0.7mm	205	88	29	>500	>500	221
Broviac 6.6Fr	1.0mm	>500	275	74	>500	>500	>500
Hickman 9.6Fr	1.6mm	>500	>500	443	>500	>500	>500
Dual Lumen Catheters							
Hickman 7Fr	0.8mm	>500	128	71	>500	>500	>500
Hickman 9Fr	1.0mm	>500	239	107	>500	>500	>500
Hickman 11Fr	1.3mm	>500	108	47	>500	>500	158
Leonard 10Fr	1.3mm	>500	>500	178	>500	>500	>500
Hickman 12Fr	1.5mm	>500	>500	149	>500	>500	>500
Hickman 13Fr	1.6mm	>500	>500	149	>500	>500	>500
Hickman 15Fr	1.9mm	>500	>500	280	>500	>500	>500
Triple Lumen Catheters							
Hickman 12.5Fr	1.0mm	>500	275	74	>500	>500	>500
Hickman 14.4Fr	1.5mm	>500	275	74	>500	>500	>500
Hickman 15.5Fr (3-lumen)	1.5mm	>500	>500	275	>500	>500	>500
Hemodialysis/Plasmapheresis Catheters (Average ml/min @ 130 mmHg)							
Hickman 10.8Fr	2.0mm	340					
Hickman 14.4Fr	2.6mm	>500					
Hickman 15.5Fr (3-lumen)	2.0mm	350					

CATHETER IRRIGATION AND HEPARIN LOCK

WHEN TO IRRIGATE HICKMAN AND BROVIAC CATHETERS

The Hickman Subcutaneous Port should be flushed with 1 mL of normal saline after each use. If the port is unused for a long period of time, the heparin lock should be changed as follows:
Heparin locked system: Flush at least once a week. Intravenous system: Flush at least once every four weeks. Intravenous system: Flush after each use.

WHEN TO IRRIGATE HEMODIALYSIS CATHETERS

Flush the catheter with 10 mL of normal saline before and after each use. Flush the catheter with 10 mL of normal saline before and after each use. Flush the catheter with 10 mL of normal saline before and after each use.

PROCEDURE FOR HEPARIN LOCK

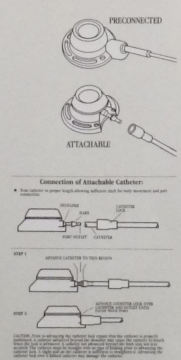
- Wash hands and clean the insertion site.
- Use aseptic technique to access the port.
- Flush the port with 1 mL of normal saline.
- Inject 1 mL of heparin D50W.
- Secure the port with a cap.

FOR MORE INFORMATION:

Bard Access Systems
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HICKMAN® SUBCUTANEOUS PORTS & HICKMAN®/BROVIAC® CATHETERS

CATHETER ATTACHMENT	TITANIUM PORT		PLASTIC PORT		CATHETER SPECIFICATIONS				REPLACEMENT ATTACHABLE CATHETER CATALOG NO.	INTRODUCER KIT CATALOG NO.
	PORT WITH STYRENE KIT	PORT ONLY	PORT WITH STYRENE KIT	PORT ONLY	FRENCH SIZE	LUMEN SIZE	LENGTH	PRIMING VOLUME		
PORT WITH LARGE VENOUS CATHETER										
PRECONNECTED	60227	60226	60266	60261	9.6	1.6mm	76cm	2.1cc	60210	60146
ATTACHABLE	60225	60221	60268	60264						60319 (Intro-Kit™)
PORT WITH SMALL VENOUS CATHETER										
PRECONNECTED	60229	60228	60267	60262	6.6	1.0mm	76cm	1.2cc	60211	60145
ATTACHABLE	60224	60222	60269	60265						
SMALL PORT WITH SMALL VENOUS CATHETER										
PRECONNECTED	60219	60218			6.6	1.0mm	76cm	1.2cc		60143
DUAL PORT WITH VENOUS DUAL LUMEN CATHETER										
PRECONNECTED			60217	60216	10.0	1.5mm	76cm	1.7cc		60146
								1.7cc		60319 (Intro-Kit™)
PORT WITH BEADED ARTERIAL CATHETER										
PRECONNECTED	60225		60260		6.1	0.5mm	61cm	0.7cc		60209
ATTACHABLE	60220									
PORT WITH PERITONEAL CATHETER (TWO CLIFF)										
ATTACHABLE	60300				14.3	2.6mm	50cm	3.2cc	60301	60151

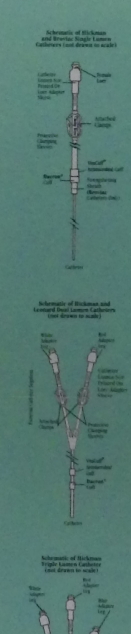


PORT MODEL	TITANIUM	PLASTIC			PERITONEAL
		SMALL TITANIUM	SINGLE	DUAL	
BASE DIAMETER (mm)	34.7	24.8	31.7	33.6 (male) / 33.0 (female)	21.7
HEIGHT (mm)	14.0	9.4	15.0	14.0	14.0
WEIGHT (g)	16.0	7.7	8.9	14.0	11.0
INTERNAL VOLUME (ml)	0.6	0.2	0.6	0.6 ea.	0.6
SEPTUM DIAMETER (mm)	12.7	9.0	12.7	12.7 ea.	12.7
NEEDLE PENETRATION DEPTH (mm)	12.8	7.9	13.2	13.2 ea.	12.8

OTHER - All options are rated to 2000 punctures (2g non-coring needles) and 8000 punctures (10g non-coring needles)
 * All port models (IRs are equivalent to the designated catheter I.D. - All catheters are radiopaque silicone.

TYPE	GAUGE	LENGTH			
		0.5"	0.75"	1.0"	1.5"
STRAIGHT METAL HUB	19			60230	60231
	20			60232	60233
	22			60234	60235
RIGHT ANGLE METAL HUB	19	60278	60250	60251	60252
	20		60253	60254	60255
	22	60259	60256	60257	60258
WINGED INTRODUCTION SET	19	60327	2205219	2206219	60328
	20		2205220	2206220	60330
	22	60331	2205222	2206222	60332

CATHETER INTRODUCER KIT	CATHETER STYLE	INTRODUCER KIT	REPAIR KIT	SIZE TO SCALE	DESCRIPTION	FR. SIZE	LENGTH	LUMEN SIZE	PRIMING VOLUME
SINGLE LUMEN CATHETERS									
	60004-2* 60004-4**		60160 White Adapter		BROVIAC 2.7 FR Pediatric Catheter with VITACUFF	2.7	71cm	0.5mm	15ml
	60052-2* 60052-4**	60141 (5 FR)	60161 White Adapter		BROVIAC 4.2 FR Pediatric Catheter with VITACUFF	4.2	71cm	0.7mm	3ml
	60054-2* 60054-4**	60143 (7 FR)	60162 White Adapter		BROVIAC 6.6 FR Catheter with VITACUFF	6.6	90cm	1.0mm	7ml
	60012-4**				BROVIAC 6.6 FR Catheter (short sheath)				
	60056-2* 60056-4**	60146 (10 FR)	60163 White Adapter		HICKMAN 9.6 FR Catheter with VITACUFF	9.6	90cm	1.6mm	1.8ml
	60018				HICKMAN 9.6 FR Catheter (clear silicone with radiopaque stripe)				
	60020				HICKMAN 9.6 FR Catheter (clear silicone with radiopaque stripe and two cuffs)				
DUAL LUMEN & TRIPLE LUMEN CATHETERS									
	60057-2* 60057-4**	60031-2* (8 FR)	60144 White Adapter		HICKMAN 7 FR Pediatric Dual Lumen Catheter with VITACUFF	7	65cm	0.8mm 1.0mm	0.6ml 0.8ml
	60060 60060-4**	60033-4** (10 FR)	60146 White Adapter		HICKMAN 9 FR Dual Lumen Catheter, Adult Length	9	90cm	0.7mm 1.3mm	0.6ml 1.3ml
	60063-2* 60063-4**	60034-2* 60034-4** (10 FR)	60146 White Adapter		LEONARD 10 FR Dual Lumen Catheter with VITACUFF	10	90cm	1.3mm 1.5mm	1.3ml 1.3ml
	60062-2* 60062-4**	60035-2* (15 FR)	60149 White Adapter		HICKMAN 12 FR Dual Lumen Catheter with VITACUFF	12	90cm	1.6mm 1.6mm	1.8ml 1.8ml
	60065-2* 60065-4**	60036-2* (15 FR)	60149 White Adapter		HICKMAN 12.5 FR Triple Lumen Catheter with VITACUFF	12.5	90cm	1.0mm 1.0mm 1.5mm	0.7ml 0.7ml 1.6ml
HEMODIALYSIS/PLASMAPHERESIS CATHETERS									
	60028 (12 FR)		60165 White Adapter		HICKMAN 10.8 FR Single Lumen Catheter	10.8	30cm	2.0mm	0.9ml
	60030 (15 FR)		60167 White Adapter		HICKMAN 14.4 FR Single Lumen Catheter	14.4	26cm	2.6mm	1.4ml
	60068-2*		60177 Blue Adapter		HICKMAN 13.5 FR Dual Lumen Catheter with VITACUFF	13.5	36cm	2.0mm	1.23ml
	60066-2*	60049 (14 FR)	60178 Red Adapter					2.0mm	1.28ml
	60069-2*							2.0mm	1.47ml
								2.0mm	1.60ml
								2.0mm	1.61ml

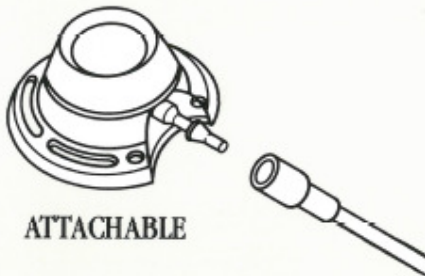


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For More Information:

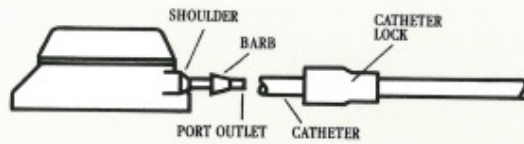
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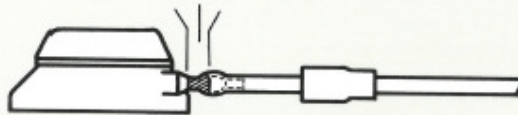
Connection of Attachable Catheter:

- Trim catheter to proper length allowing sufficient slack for body movement and port connection.



STEP 1

ADVANCE CATHETER TO THIS REGION

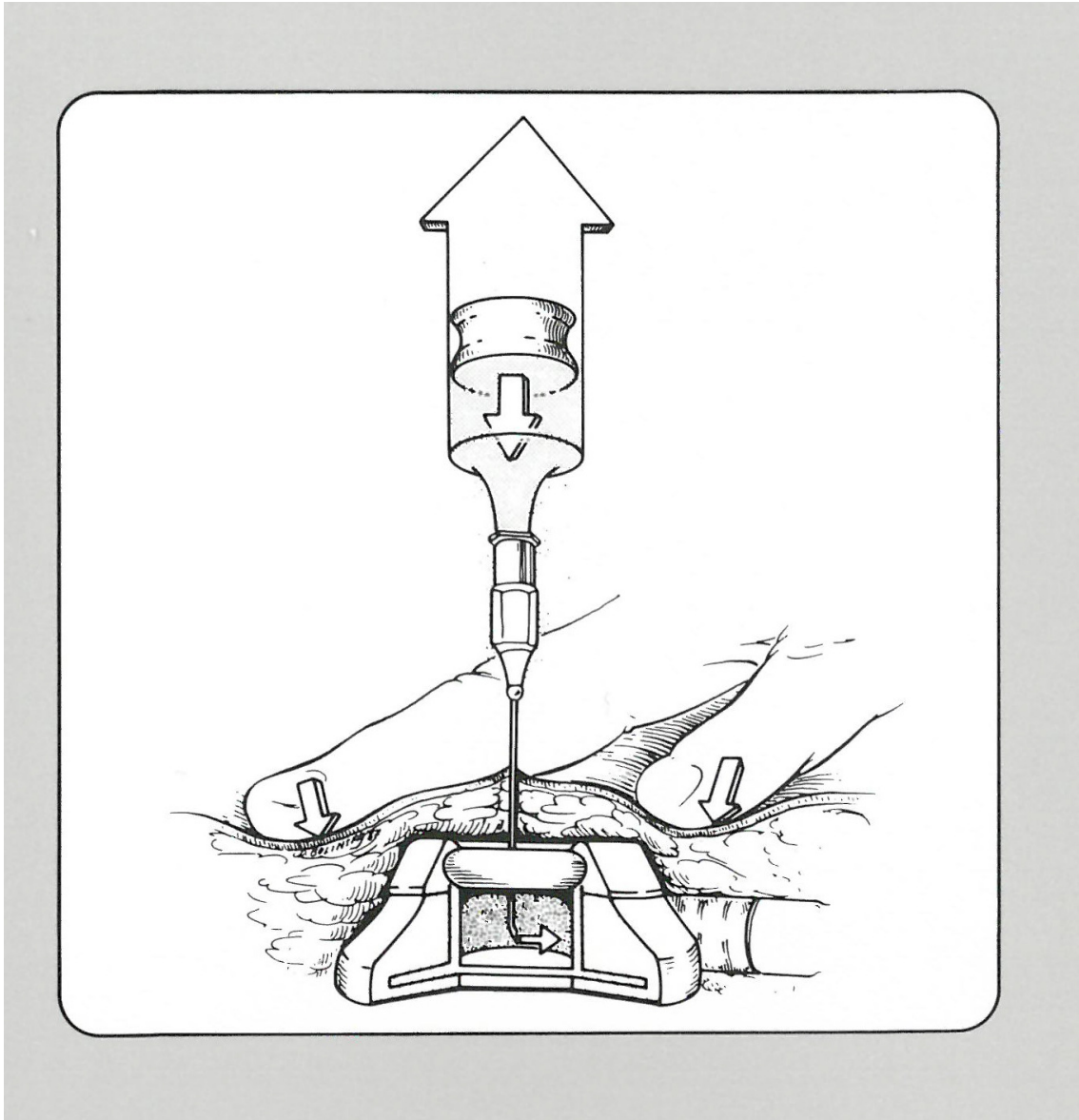


STEP 2

ADVANCE CATHETER LOCK OVER CATHETER AND OUTLET UNTIL FLUSH WITH PORT



CAUTION: Prior to advancing the catheter lock ensure that the catheter is properly positioned. A catheter advanced beyond the shoulder may cause the catheter to bunch when the lock is advanced. A catheter not advanced beyond the barb may not seat securely. The catheter must be straight with no sign of kinking prior to advancing the catheter lock. A slight pull on the catheter is sufficient to straighten it. Advancing the catheter lock over a kinked catheter may damage the catheter.



Perfusion Catheters (Average ml/min @ 130 mmHg)

Pump					
Whole Blood					
340					
>500					
350					

DOCK

clamping sleeve on
 e-iodine.
 ant equal to the catheter
 nized saline into a 5ml

cap, release the clamp, and
 olution. Avoid aspirating
 m the injection cap by

h caution to prevent

arin lock in patient's record.

FOR MORE INFORMATION:

Bard Access Systems
 5425 West Amelia Earhart Drive · Salt Lake City, UT 84116
For Customer Service: 1-800-545-0890
For Clinical Information: 1-800-443-3385

¹Flow rates achieved using a pump with 15 psi capabilities. Note: Flow rates greater than 500ml per hour for saline, TPN solutions, and packed cells were achieved at pressures less than 15 psi. Flow rates measured at full catheter lengths. Flow rates for ports were determined using a 19 gauge, 1.00" right angle non-coring needle.

²Flow rates may vary depending on the condition of the packed cells.

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