Power-Trialysis™ Short-Term Triple Lumen Dialysis Catheter

BD

When your patient's therapy needs to include a central line along with acute dialysis treatment, choose the Power-Trialysis™ Catheter.

Power-Trialysis™ Short-Term Dialysis Catheter Family

With a completely independent 17 gauge third internal lumen for intravenous therapy, power injection of contrast media, and central venous pressure monitoring, the Power Trialysis™ Short-Term Dialysis Catheter is indicated for use in attaining short-term (less than 30 days) vascular access for hemodialysis, hemoperfusion, and apheresis treatments. The catheter is intended to be inserted in the jugular, femoral, or subclavian vein as required. The maximum recommended infusion rate is 5 mL/sec for power injection of contrast media.

All Power-Trialysis™ Catheters are offered in basic kits as well as full procedure trays that include maximal barrier components.

The Power-Trialysis™ Catheter family includes 12 F and 13 F triple-lumen, short-term dialysis catheters that come in various lengths and configurations.

Straight

Curved extension legs

Alphacurve™ Catheter

Power-Trialysis™ Catheter

The completely independent, 17-gauge third lumen can be used as a central line and is labeled for power injection of contrast media, central-venous pressure monitoring, blood draws and the infusion of medications

Pinch clamps to close lumens while not in use. Clamps are labeled with priming volumes and maximum flow rate for the third lumen

Rotatable suture wings for catheter adjustments and securement

Kidney shaped lumen design on the Power-Trialysis™ Slim-Cath™ that maximizes the area of the oval catheter shaft to achieve high flow rates

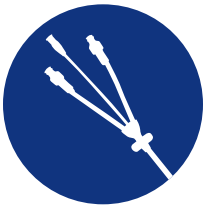
Depth markings facilitate insertion of catheter to desired depth

Oval catheter shaft designed for kink resistance[1]

Catheter shaft comprised of thermosensitive polyurethane, designed to be stiffer at insertion but soften at body temperature

Tip is softer than the shaft and is designed to minimize recirculation

The power of three



Utility

The third, 17-gauge, power-injectable lumen provides additional access for multiple therapies. The power injection rate is labeled on the pinch clamp

- Multiple insertion lengths of 12.5 cm, 15 cm, 20 cm, 24 cm and 30 cm (lengths vary per catheter configuration)
- Straight, curved and Alphacurve™ Catheter configurations
- Standard kit and full max barrier tray options. 13 F Power-Trialysis™ Catheter and 12 F Power-Trialysis™ Slim-Cath™ Catheter sizes

Reliability

Demonstrated a reliable flow rate up to 400 mL/min and recirculation of 2% on average through simulated testing*

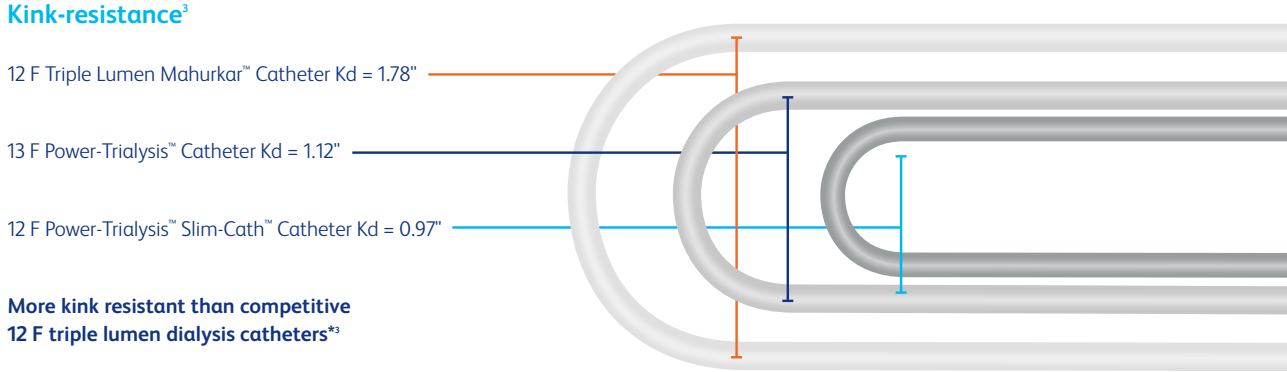
The Infusion Therapy Standards of Practice recommend the use of standardized supply cart or kit that contains all necessary components for the insertion of a central venous access device (CVAD).[2] Our full procedure trays were designed with that guidance in mind and contain the components needed to insert a CVAD using maximal barrier precautions, including the sterile gown and a full body sterile drape.

Flexibility

The oval catheter shaft demonstrated better kink resistance than competitive triple-lumen dialysis catheters**[3]

- The thermosensitive polyurethane catheter shaft provides stiffness during insertion, but softens at body temperature
- Power-Trialysis™ Slim-Cath™ Catheter 12 F demonstrated ~46% smaller kink diameter than a competitor**[3]

Kink-resistance[3]



More kink resistant than competitive 12 F triple lumen dialysis catheters*[3]

*As demonstrated through simulated testing. Results may not be indicative of actual clinical performance. Different tests may yield different results.
**As demonstrated through simulated testing. Bench test results may not necessarily be indicative of clinical performance.

Note: The product images shown are for illustrative purposes only and are not an accurate depiction of kinking properties of either device.
Note: Please consult package insert for more detailed safety information and instructions for use.

Vascular access is a key component of successful dialysis in the ICU

20–60% of all intensive care unit patients suffer from acute kidney injury[4-6]

Dialysis efficiency may affect morbidity and mortality in the critically ill[7]

Dialysis efficiency can be influenced by multiple factors, some of which are:

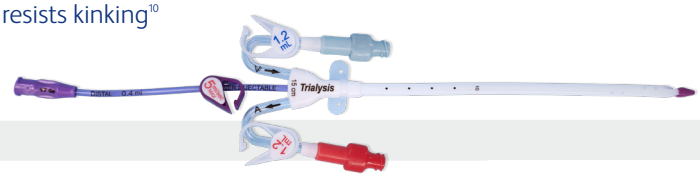
- Circuit life[8]
- Filtration rate[8]

The benefits of longer and uninterrupted dialysis sessions are well documented:

- Reduced circuit life may lead to adverse patient consequences[9]

The Power-Trialysis™ Short-Term Dialysis Catheter is indicated for use in attaining short-term (<30 days) vascular access for hemodialysis, hemoperfusion, and apheresis treatments[10]

- The distal (purple) lumen is completely independent from the two dialysis lumens and may be used for intravenous therapy, power injection of contrast media, and central venous pressure monitoring[10]
- Oval catheter design resists kinking[10]
- Made of thermosensitive polyurethane, which softens when exposed to body temperature[10]
- Symmetrical tip allows for 2% recirculation on average in forward and reverse[10]



In two U.S. hospitals (n=1,037), switching to Power-Trialysis™‡ resulted in improvement in several factors known to impact dialysis efficiency:[11]

31% ↑ Increase in circuit life†

20% ↓ Decrease in vascular access-related interruptions†

3% ↑ Increase in blood flow rate†

58% ↓ Decrease in non-elective treatment terminations†

† Before the switch, the hospitals used: Mahurkar Elite IC Catheter Kit, 12 F x 13 cm, Curved, 3-Lumen Medtronic, Fridley, MN; Covidien Mahurkar Elite 12 Dual Lumen Catheter 16 cm, curved, Kit Medtronic, Fridley, MN; High-Pressure Triple Lumen Acute Dialysis Catheter IC Tray, 20 cm, Curved Extensions, 12 F, Cardinal Health, Dublin, OH. Post-switch the hospitals utilized a single catheter: BD Power-Trialysis Short-Term Curved Extension Dialysis Catheter in full procedure trays, 15 cm and 20 cm insertion lengths

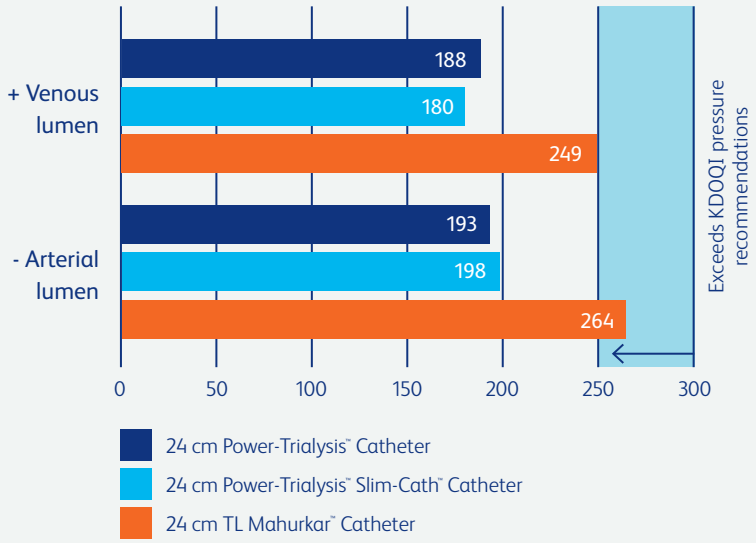
‡ $p<0.05$

Power-Trialysis™ Short-Term Dialysis Catheter

Flow rates of up to 400 mL/min at lower pressure than competitive triple lumen dialysis catheters.[12]

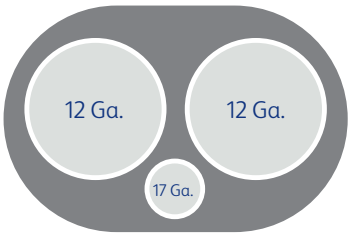
Prepump arterial pressure should not exceed -250 mmHg. Results are bench testing and not indicative of clinical performance.

Pressure measured to achieve 400 mL/min



Gravity flow rate of the central lumen
(1 meter of water infusion pressure)

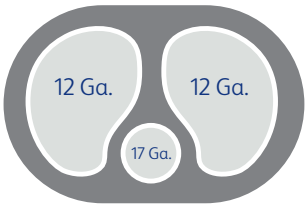
Insertion length (cm)	Gravity flow rate (mL/hr)
Straight catheter and curved extension legs	
12.5	3721
15	3333
20	2830
24	2634
30	2258
Alphacurve™ Catheter	
12.5	3092
15	2539
20	2387
24	2149
Slim-Cath™ Catheter	
12.5	3922
15	3656
20	3081
24	2773
30	2376



Power-Trialysis™ Catheter

Double-barrel lumen design permits high flows*

*As demonstrated through simulated testing. Results may not be indicative of actual clinical performance. Different tests may yield different results.



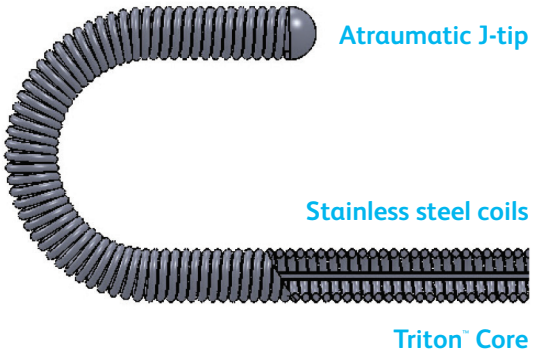
Power-Trialysis™ Slim-Cath™ Catheter

The catheter is designed to maximize space by utilizing kidney-shaped lumens

Note: Please consult package insert for more detailed safety information and instructions for use.

StruXure™ Guidewire

Kink-resistant guidewire



Designed with enhanced kink resistance as compared to stainless steel and enhanced stiffness as compared to nitinol wires.*[13]

According to BD internal market research surveys, ~15% of acute dialysis procedures experienced guidewire kinking.[14]

*As demonstrated through simulated testing. Results may not be indicative of actual clinical performance. Different tests may yield different results.

Residual bend of guidewire

StruXure™ Guidewire

Product code	Length	Product description
A035700	0.035" (in diameter by 70 cm length)	Standalone for dialysis catheters

STRUXURE™ GUIDEWIRE

Product codes – U.S.

Power-Trialysis™ Triple-Lumen Catheter, 13 F (5.3 mm x 3.6 mm oval OD)

Power-Trialysis™ Short-Term Straight Extension Triple-Lumen Dialysis Catheter

Product code	Catheter insertion length (cm)
Basic kit	
5603150	15
5603200	20
5603240	24
5603300	30
Full procedure tray (includes maximal barrier components)	
5605150	15
5605200	20
5605200G	20
5605240	24
5605300	30

Power-Trialysis™ Short-Term Pre-Curved Extension Legs Triple-Lumen Dialysis Catheter

Product code	Catheter insertion length (cm)
Basic kit	
5613120	12.5
5613150	15
5613200	20
5613240	24
Full procedure tray (includes maximal barrier components)	
5615120	12.5
5615150	15
5615150G	15
5615200	20
5615240	24

Power-Trialysis™ Short-Term Alpha Pre-Curved Shaft Triple-Lumen Dialysis Catheter

Product code	Catheter insertion length (cm)
Basic kit	
5653120	12.5
5653150	15
5653200	20
5653240	24
Full procedure tray (includes maximal barrier components)	
5655120	12.5
5655150	15
5655200	20
5655240	24

Power-Trialysis™ Slim-Cath™ Triple-Lumen Catheter, 12 F (5.0 mm x 3.3 mm oval OD)

Power-Trialysis™ Slim-Cath™ Short-Term Straight Extension Triple-Lumen Dialysis Catheter

Product code	Catheter insertion length (cm)
Basic kit	
5853150	15
5853200	20
5853240	24
5853300	30
Full procedure tray (includes maximal barrier components)	
5855150	15
5855200	20
5855200G	20
5855240	24
5855300	30

Power-Trialysis™ Slim-Cath™ Short-Term Pre-Curved Extension Legs Triple-Lumen Dialysis Catheter

Product code	Catheter insertion length (cm)
Basic kit	
5863120	12.5
5863150	15
5863200	20
5863240	24
Full procedure tray (includes maximal barrier components)	
5865120	12.5
5865150	15
5865150G	15
5865200	20
5865200	24

Product codes – U.S.

Power-Trialysis™ Catheter kit contents

Qty	Product	Qty	Product
Basic kit			
3	End cap	1	Introducer needle, 18 G (1.3 mm OD, 1.0 mm ID) x 70 mm
1	Dualator™ Dilator, 12-14 F (4.7 mm OD, 1.0 mm ID, 21 cm length)	1	Attachable suture wing
1	Dualator™ Dilator, 11-13 F (4.4 mm OD, 1.0 mm ID, 15 cm length)	1	Power-Trialysis™ Triple-Lumen Catheter
1	Adhesive dressing	1	Guidewire, "J" tip (3 mm radius), 0.88 mm (0.035 in.) OD x 70 cm
Full procedure tray (includes maximal barrier components)			
1	Adhesive dressing	1	Lidocaine HCl 1%, 5 mL ampule
2	Aspiration device	2	Mask
1	Attachable suture wing	1	Needle holder
1	Bouffant cap	1	Needle, safety hypodermic, 22 G (0.7 mm OD x 38 mm length)
2	ChloraPrep™ Solution One-Step Applicator, 3 mL	1	Needle, safety hypodermic, 25 G (0.5 mm OD x 16 mm length)
1	Drape, body, fenestrated	1	Power-Trialysis™ Triple-Lumen Catheter (5.3 mm x 3.6 mm oval OD)
1	Drape, fenestrated	1	Safety scalpel
1	Dualator™ Dilator, 11-13 F (4.4 mm OD, 1.0 mm ID, 15 cm length)	3	Sodium chloride (saline) 0.9%, 10 mL ampule
1	Dualator™ Dilator, 12-14 F (4.7 mm OD, 1.0 mm ID, 21 cm length)	1	Guidewire, "J" tip (3 mm radius), 0.88 mm (0.035 in.) OD x 70 cm
3	End cap	1	Suture, 3.0 nylon
6	Gauze, 10 cm x 10 cm (4 in. x 4 in.)	3	Syringe, 12 mL, luer lock
1	Gloves	1	Syringe, 6 mL, luer lock
1	Gown	2	Syringe, 6 mL, luer slip
1	Introducer Safety Needle, 18 G (1.3 mm OD, 1.0 mm ID) x 70 mm		

Power-Trialysis™ Short-Term Dialysis Catheter Indications for Use:
The Power-Trialysis™ Short-Term Dialysis Catheter, with a third internal lumen for intravenous therapy, power injection of contrast media and central venous pressure monitoring, is indicated for use in attaining short-term (less than 30 days) vascular access for hemodialysis, hemoperfusion and apheresis treatments. The catheter is intended to be inserted in the jugular, femoral or subclavian vein as required. The maximum recommended infusion rate is 5 mL/sec for power injection of contrast media.

Contraindications:
- The catheter is intended for short-term vascular access only and is not to be used for any purpose other than indicated in these instructions.

The device is also contraindicated:
- When the presence of device related infection, bactermia, or septicemia is known or suspected.
- When the patient's body size is insufficient to accommodate the size of the implanted device.
- When the patient is known or is suspected to be allergic to materials contained in the device.
- If the prospective insertion site has been previously irradiated.
- If the prospective placement site has previously suffered episodes of venous thrombosis or vascular surgical procedures.
- If local tissue factors may prevent proper device stabilization and/or access.

Please consult product labels and inserts for any indications, contraindications, hazards, warnings, precautions and directions for use.

StruXure™ Guidewire Indications for Use:
To facilitate the placement of devices during diagnostic or interventional procedures.

Contraindications:
This wire is not intended for use in the cerebrovasculature or coronary arteries.

Warnings:
- Contents supplied STERILE. Do not use if sterile barrier is damaged.
- Intended for Single Patient Use. DO NOT RESTERILIZE AND/OR REUSE.
- Do not alter the guidewire during insertion, use or removal.
- After use, this product may be a potential biohazard. Handle and discard with accepted medical practice and applicable local, state, and federal laws and regulations.

Cautions:
- Carefully read and follow all instructions prior to use.
- Federal (USA) law restricts this device to sale by or on the order of a physician.
- Only qualified healthcare practitioners should insert, manipulate, and remove these devices.
- Vessel trauma may result from the improper use of this device.
- Never advance the guidewire against resistance. Excessive force against resistance may result in separation of the guidewire tip, guidewire fracture, damage to the catheter or vessel damage.
- Avoid withdrawing the guidewire through metal needles; guidewires may shear against the needle bevel.
- Use the device prior to the "Use By" date noted on the package.

Please consult package insert for more detailed safety information and instructions for use.

References

1. Power-Trialysis™ Short-Term Triple Lumen Dialysis Catheter Verification Testing. Franklin Lakes, NJ: Becton, Dickinson and Company. **2.** Nickel B, Gorski L, Kleidon T, et al. Therapy Standards of Practice, 9th Edition. *Journal of Infusion Nursing* 47(1S):p S1-S285, January/February 2024. | DOI: 10.1097/NAN.0000000000000532. **3.** Power-Trialysis™ Short-Term Triple Lumen Dialysis Catheter Comparison Testing. Franklin Lakes, NJ: Becton, Dickinson and Company. **4.** Hoste EA, Bagshaw SM, Bellomo R, et al. Epidemiology of acute kidney injury in critically ill patients: the multinational AKI-EPI study. *Intensive Care Med.* Aug 2015;41(8):1411-23.doi:10.1007/s00134-015-3934-7. **5.** Hoste EA, Schurgers M. Epidemiology of acute kidney injury: how big is the problem? *Crit Care Med.* 2008 Apr;36(4 Suppl):S146-51. doi: 10.1097/CCM.0b013e318168c590. **6.** Bellomo R, Kellum JA, Ronco C. Acute kidney injury. *Lancet.* Aug 25 2012;380(9843):756-66. doi:10.1016/S0140-6736(11)61454-2. **7.** Ronco C, Bellomo R, Homel P, et al. Effects of different doses in continuous veno-venous haemofiltration on outcomes of acute renal failure: a prospective randomised trial. *Lancet.*Jul 1 2000;356(9223):26-30. doi:10.1016/S0140-6736(00)02430-2 **8.** Fealy N, Baldwin I, Bellomo R. The effect of circuit "down-time" on uraemic control during continuous veno-venous haemofiltration. *Crit Care Resusc.* Dec 2002;4(4):266-70. **9.** Zhang Z, Ni H, Lu B. Variables associated with circuit life span in critically ill patients undergoing continuous renal replacement therapy: a prospective observational study. *ASAIO J.* Jan-Feb 2012;58(1):46-50. doi:10.1097/MAT.0b013e31823fdf20. **10.** Data on file. **11.** Gilmore N, Alsbrooks K, Hoerauf K. The Association Between Catheter Type and Dialysis Efficiency: A Retrospective Data Analysis at Two US-based ICUs. *Critical Care Explorations.*Jan 2023;5(1):e0795. doi:10.1097/CCE.0000000000000795. **12.** Power-Trialysis™ Short-Term Triple Lumen Dialysis Catheter Survey. Franklin Lakes, NJ: Becton, Dickinson and Company. **13.** Bard Access Systems, 3-point Bend Comparison Testing Performance Results, M506-013-001, 2015. **14.** SIR 2015 HRA Acute Dialysis Survey DS00-Y096, SCCM 2015 HRA Acute Dialysis Report.

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