



Product	Material	Catheter Size	Lumen	Length	Balloon Volume(cc)	Thermistor Resistance (ohms)	Recommended Introducer Size	Radiopacity	
THERMODILUTION CATHETER									
TD1504N	PVC	5F	4	90 cm	0.75	14K	6F	Sufficiently opaque to appear visible under conventional fluoroscope illumination while in vivo	
TD2504N	PU	5F	4	90 cm	0.75	14K	6F		
TD1604N	PVC	6F	4	110 cm	1.00	14K	7F		
TD2604N	PU	6F	4	110 cm	1.00	14K	7F		
TD1704N	PVC	7F	4	110 cm	1.50	14K	8F		
TD2704N	PU	7F	4	110 cm	1.50	14K	8F		
TD1755N	PVC	7.5F	5	110 cm	1.50	14K	8.5F		
TD2755N	PU	7.5F	5	110 cm	1.50	14K	8.5F		
PA MONITORING CATHETER									
TD1502N	PVC	5 Fr	2	90 cm	0.75	N/A	6F		
TD2502N	PU	5 Fr	2	90 cm	0.75	N/A	6F		
TD1602N	PVC	6 Fr	2	110 cm	1.00	N/A	7F		
TD2602N	PU	6 Fr	2	110 cm	1.00	N/A	7F		
TD1702N	PVC	7 Fr	2	110 cm	1.50	N/A	8F		
TD2702N	PU	7 Fr	2	110 cm	1.50	N/A	8F		
TD1603N	PVC	6 Fr	3	110 cm	1.00	N/A	7F		
TD2603N	PU	6 Fr	3	110 cm	1.00	N/A	7F		
TD1703N	PVC	7 Fr	3	110 cm	1.50	N/A	8F		
TD2703N	PU	7 Fr	3	110 cm	1.50	N/A	8F		

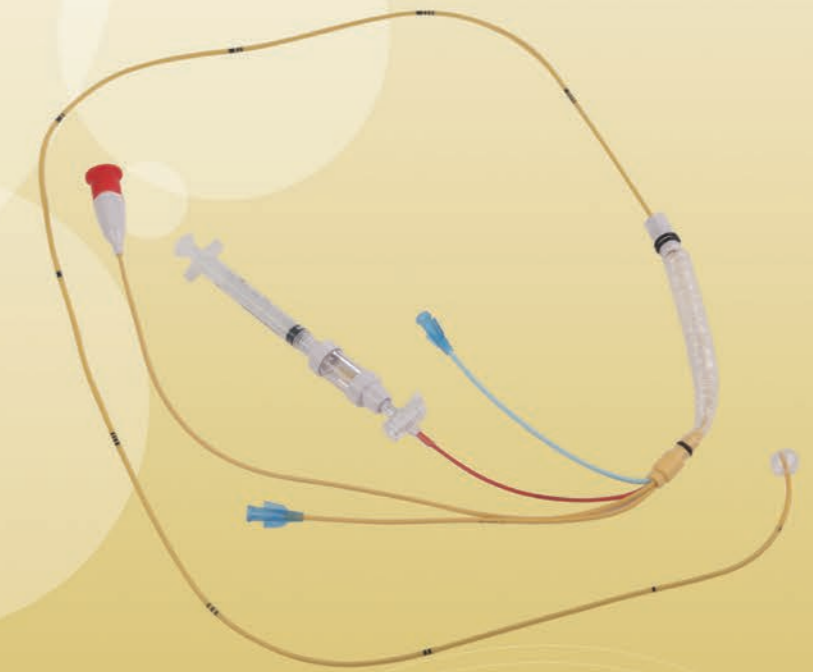
SPECIAL FEATURES

Optional Features	Suffix	Description
SAFETYWEDGE™	D	Catheter with SAFETYWEDGE™
Contamination Sleeve	X	Catheter without contamination sleeve
Non-coated tubing	N	Catheter with no coating on tubing
Stiff Body Tubing	F	Catheter with stiffer tubing

SAFETYWEDGE™ covered by U.S. Patent No. 5,007,919
 1. Thomas Santora, MD; William Ganz, MD; Julian Gold, MD; Mark Wittman, MD; Beverley Leyerle, RN; H.J.C. Swan, MD, PhD; M. Michael Shabot, MD, "New method for monitoring pulmonary artery catheter location," "Critical Care Medicine". Vol. 19, No. 3, p. 422, 1991.
 2. Jean-Francois Hardy, MD; Martin Morissette, MD; Jean Taillefer, MD; Rene Vauclair, MD; "Pathophysiology of Rupture of the Pulmonary Artery by Pulmonary Artery Balloon-Tipped Catheters," "Anesthesia & Analgesia". Vol. 62, p. 925, 1983.
 Note: Heparin coated model as attained FDA 510(K) approval.

SAFETYWEDGE™

Thermodilution Catheters



Bioptimal™



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SAFETYWEDGE™

Thermodilution Catheters

Eliminating the risk of Pulmonary Artery Rupture.



About SAFETYWEDGE™ Thermodilution Catheter

An unprecedented level of safety for balloon inflation.

Catheter tips often migrate to small arterial branches that are unable to safely accommodate inflated balloons.

SAFETYWEDGE™ thermodilution catheters virtually eliminate the risk of pulmonary artery rupture due to balloon overpressurization - the most serious complication associated with PA catheter monitoring.

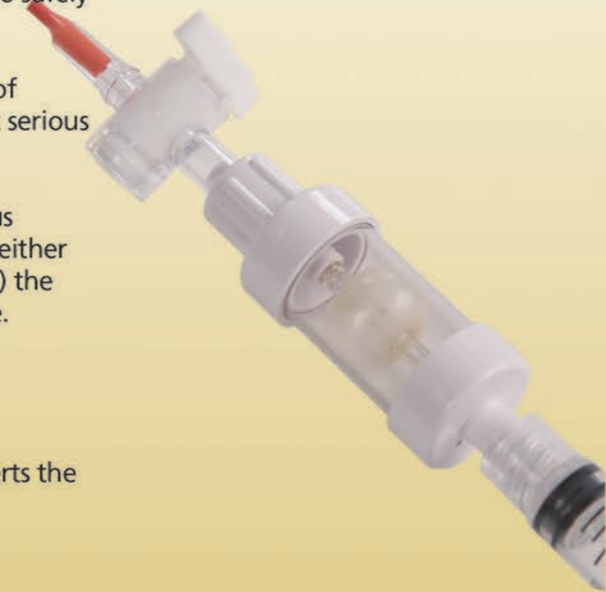
SAFETYWEDGE™ catheters reduce the risk of this potentially dangerous situation by facilitating inflation of the SAFETYWEDGE™ device when either (1) the distal balloon encounters abnormal resistance to inflation, or (2) the pressure inside the distal balloon exceeds the normal inflation pressure.

SAFETYWEDGE™ component acts as a pressure relief valve to prevent overpressurization of the distal balloon.

This not only averts vessel rupture but balloon rupture as well, and alerts the clinician to reposition the catheter.

Features and Benefits

- **SAFETYWEDGE™**
Exclusive Safety balloon acts as pressure relief valve to prevent overpressurization of the balloon.
- **Contamination Shield**
Provides a protective barrier against contamination of the catheter during catheter insertion and manipulation.
- **Medication Lumen**
Permits blood sampling, fluid and drug administration and central venous pressure monitoring (7.5 French catheter only).
- **Thermistor Connector**
Compatible with commonly used cardiac output computers, also used to monitor pulmonary artery blood temperature.
- **PA Distal Lumen**
Allows mixed venous blood sampling, and measurements of pulmonary artery and pulmonary capillary wedge pressure.
- **Distal Balloon**
Provides excellent symmetry and tip coverage for the safe flotation of the catheter and for pulmonary capillary wedge pressure measurements.
- **CVP Proximal or Injectate Lumen**
Carries cardiac output injectate solution to right atrium. Accommodates blood sampling, fluid and drug administration and - when attached to a pressure transducer - monitor of right atrium pressure.



SAFETYWEDGE™ Thermodilution Catheter with the BioTray

Reducing the Serious Risk of Pulmonary Artery Rupture.

The BioTray contains all the necessary supplies used with the SAFETYWEDGE™ thermodilution catheter. Value added benefits:

- Elimination of the sheath-catheter size compatible issue
- Ease of use
- Convenience
- Easier inventory control
- Elimination of nursing cover as the tray can be opened in a sterile area
- All components matched by BIOPTIMA for optimum compatibility

Contents of the BioTray

Features high quality products at lower costs, saves time and reduces supply inventories.

- One Thermodilution Catheter / PA Monitoring Catheter
- Contamination Shield
- SAFETYWEDGE™ Balloon Device
- Venous Introducer with Dilator
- Guidewire (0.035")
- Needle 18G x 2 1/2"
- Needle 18G x 2 1/2" OTN Catheter
- Paper Towel 17 x 22"
- Gauze Swab
- Syringe Luer Slip 5cc
- Scalpel #11 Short
- Needle 25G
- Needle 22G
- Drape Minor Proc. Fen 22 x 22"
- Syringe 1.5cc
- Suture, Silk

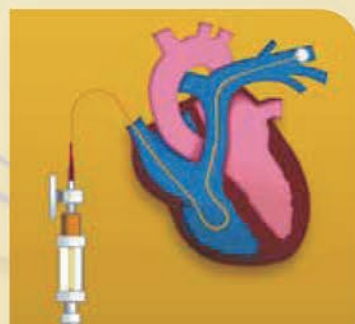
Advantage of PU catheter

- Polyurethane performs better against thrombosis, eliminating the need for Heparin coating.
- Polyurethane is tough, biocompatible, and hemocompatible. Polyurethane also outperforms many other materials in flexibility, tear resistance and abrasion resistance. Polyurethane is stiff when insert the catheter however after it goes into vein and contacts blood it will become soft which can reduce the risk of damage and injury to the vein wall.
- The use of Polyurethane in Bioptimal's thermodilution catheters eliminates the problems associated with other materials such as PVC, where the dangers of leachable plasticizers has become a concern.
- Polyurethane is non-radioactive material which can be detected clearly to ensure correct placement of the catheter.

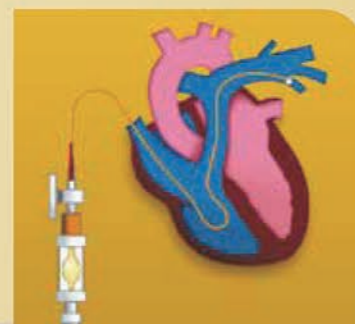


Total Package, Total Solution

Enjoy the benefits of the SAFETYWEDGE™ thermodilution catheter in a convenient, fully accessorised all-in one tray.



Correct catheter position, with SAFETYWEDGE™ device in READY mode.



Catheter tip migration into small PA branch, SAFETYWEDGE™ device activated upon attempt to inflate distal balloon.

