#### Medtronic

DAR™ closed suction system

# Designed for airway clearance and exposure protection





## Clearing the airway with closed suctioning

The DAR™ closed suction system is designed to expel tracheal secretions and preserve airway clearance for patients with an artificial airway in place. Beyond reducing the physiological impact of endotracheal suctioning to the patient, closed suction systems offer protection for the clinician, compared to open suctioning.<sup>13</sup>

Compared to open suctioning, utilizing a closed suction system can significantly curb healthcare provider glove and airway equipment contamination.<sup>3</sup> Because tracheal suctioning is a common practice, the use of closed tracheal suction is an important step in potentially reducing environmental contamination.<sup>13</sup>

## Benefits of closed endotracheal suctioning<sup>†</sup>: infection control,<sup>3</sup> time savings,<sup>5,6</sup> and safety<sup>2,4</sup>

- Improved physiological impact<sup>4</sup>:
  - Improved oxygenation and PEEP maintenance<sup>2</sup>
  - Reduced impact on intracranial pressures<sup>4</sup>
- Effective secretion management<sup>4</sup>
- Easy to use, requires shorter suctioning time, and uses only one nurse<sup>5,6</sup>
- Supports clinician safety by minimizing exposure<sup>3</sup>

## Boost efficiency and streamline workflow<sup>6</sup>

Compared to open suctioning, using a closed suction system can help minimize suctioning time and workload.<sup>6</sup> With no need to disconnect intubated patients from ventilatory support and a shorter suctioning time, you'll get more time back in your day.<sup>6</sup>

Plus, the DAR $^{\text{\tiny{M}}}$  closed suction system allows for one-user procedures, requiring only one nurse for suctioning.<sup>6</sup>

# Beyond closed suction: innovatively and hygienically designed

The DAR™ closed suction system features a replaceable catheter, a step forward in endotracheal suctioning. Post-suction catheter removal, facilitated by a self-sealing cap on the patient access valve, permits bronchoscopy, mucus sampling, or bronchoalveolar lavage (BAL) procedures.

The DAR™ closed suction system with replaceable catheter has been microbiologically evaluated and validated for up 96 hours of use.8

Available with dedicated ports for catheter rinsing and MDI drug delivery, the DAR™ closed suction system with replaceable catheter is ideal for diverse treatment needs.

## A gentler approach to airway clearance

- The atraumatic dual density suction catheter, with its flexible, ultrasoft, and rounded distal tip, is designed to reduce possible lesions of the tracheal mucosa.
- Four lateral eyes create a uniform airflow around the catheter tip, minimizing tracheal mucosa invagination risk compared to single side-hole catheters.<sup>1</sup>
- The 360-degree double swiveling elbow (DSE) is designed to enhance patient comfort by minimizing torque.

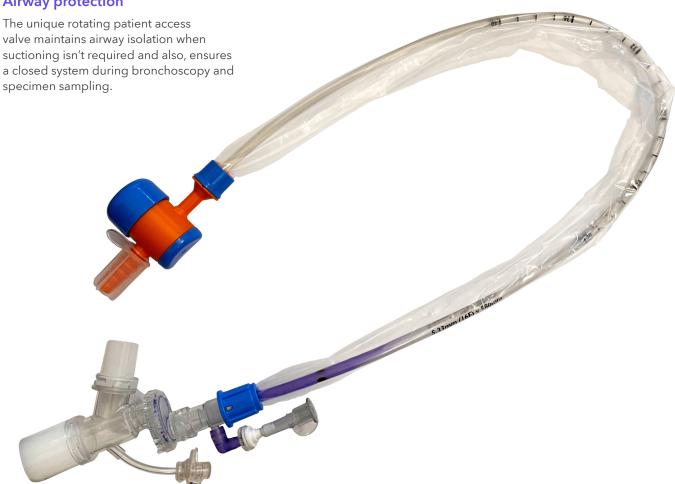
#### **Catheter rinsing**

The irrigation port's one-way valve is intended to prevent patient secretions from flowing back, and potentially minimize contamination risks. The catheter tip is cleaned in full isolation through the rinsing chamber's special geometry.

#### Clinician-friendly design

The suction valve's rotating lid functions as an open-closed locking mechanism, providing easy procedure control. ISO color coding enables immediate catheter size identification, assisting caregivers in system selection, while depth markings in centimeters facilitate catheter insertion into the trachea.

#### **Airway protection**









#### DAR™ neonatal-pediatric closed suction system

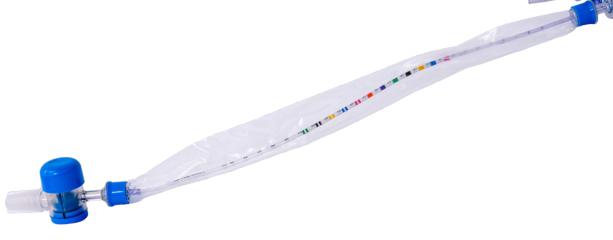
## Improving physiologic stability for your smallest patients

The use of closed suction systems, versus open suction systems, for neonatal and pediatric patients is grounded in the understanding that endotracheal suctioning is better tolerated by infants in terms of short-term benefits if performed with uninterrupted conventional mechanical ventilation.

The closed system helps minimize some short-term suctioning-related complications by producing less cardiorespiratory distress to newborn and pediatric patients. Potential benefits include:

- Reduced occurrence of hypoxia<sup>9</sup>
- Minimized bradycardia9
- Faster recovery times<sup>12</sup>

Developed with the same advanced technology from the adult version, the DAR $^{\text{\tiny{M}}}$  neonatal-pediatric closed suction system boasts features tailored for neonatal and pediatric physiologic conditions:



- A specialized rotating valve ensures patient airway isolation
- Efficient suctioning in incubator maintained by no-kinking catheter feature
- Variety of endotracheal tube adapters
- Transparent valve body permits easy secretion inspection



## Y-piece connector

For neonates, allows for the lowest dead space



Manifold connector

Indicated for neonatal patients



Elbow connector

Indicated for pediatric patients



#### Order information

#### DAR<sup>™</sup> closed suction system

Endotracheal length: 580 mm Time of use: 48 hours

CEN		C:	<u> </u>
CFN		Size Fr/Ch	Color
444SP01010	Standard	10	
444SP01012		12	
444SP01014		14	
444SP01016		16	
444SP01110	With MDI port	10	
444SP01112		12	
444SP01114		14	
444SP01116		16	
444SPA1012	Saline vials 10 vials 15 ml	12	
444SPA1014		14	

DAR™ closed suction system Tracheostomy length: 365 mm Time of use: 48 hours

CFN		Size Fr/Ch	Color
444SP01312	Standard	12	
444SP01314		14	
444SPY1312	For Shiley <sup>™</sup> cannulae	12	
444SPY1314		14	
444SPY1316		16	
444SP01512	With MDI port	12	
444SP01514		14	
444SP01516		16	
444SPA1312	Saline vials 10 vials 15 ml	12	
444SPA1314		14	

#### **DAR™** Pediatric-Neonatal

Time of use: 48 hours

CFN		Size Fr/Ch + Ø ETT adapter	Length	Color
444S02605	Y-piece connector	5+2.0/2.5 mm	310 mm	
444S02606		6+2.5/3.0/3.5 mm	320 mm	
444S02607		7+3.0/3.5/4.0 mm	320 mm	
444S02608		8+3.5/4.0/4.5 mm	360 mm	
444S02610		10+4.5/5.0/5.5 mm	460 mm	
444S02706	Elbow connector	6	320 mm	
444S02708		8	360 mm	
444S02710		10	460 mm	
444S02805	Manifold connector	5	310 mm	
444S02806		6	320 mm	
444S02808		8	360 mm	

Packaging: 10 each/box, sterile

#### Order information

#### DAR™ closed suction system, replaceable catheter

Endotracheal length: 580 mm Time of use: 96 hours

	CFN	Size Fr/Ch	Color
	444SP02010	10	
Standard	444SP02012	12	
Standard	444SP02014	14	
	444SP02016	16	
	444SP02110	10	
With MDI nort	444SP02112	12	
With MDI port	444SP02114	14	
	444SP02116	16	
Coudé with	444SP02412	12	
MDI port	444SP02414	14	
With T-piece	444SP03012	12	
for CPAP	444SP03014	14	
Saline vials 10 vials 15 ml	444SPA2012	12	
	444SPA2014	14	
	444SPA2016	16	

Packaging: 10 each/box, sterile

## DAR™ closed suction system, replaceable catheter Tracheostomy length: 365 mm

Time of use: 96 hours

	CFN	Size Fr/Ch	Color
Standard	444SP02312	12	
Standard	444SP02314	14	
	444SPY2312	12	
For Shiley™ cannulas	444SPY2314	14	
	444SPY2316	16	
	444SP02512	12	
With MDI port	444SP02514	14	
	444SP02516	16	
With T-piece	444SP03312	12	
for CPAP	444SP03314	14	
Saline vials 10 vials 15 ml	444SPA2312	12	
	444SPA2314	14	

Packaging: 10 each/box, sterile

#### Replacement catheters

Endotracheal length: 580 mm

	CFN	Size Fr/Ch	Color
	444SP00010	10	
For standard version	444SP00012	12	
	444SP00014	14	
	444SP00016	16	

Packaging: 10 each/box, sterile

#### **Accessories**

CFN	Description	Quantity
444SPA0000	Saline vial - 4 boxes of 50 saline vials 15 ml	200 ea/ box
111/1156	Cap set: bronchoscopy self sealing Cap + suction catheter protecting cap	25 each/ box
723-	Vacuum adapter tethered cap	20 ea/box

### Replacement catheters Tracheostomy length: 365 mm

	CFN	Size Fr/Ch	Color
	444SP00512	12	
Standard	444SP00514	14	
	444SP00516	16	

Packaging: 10 each/box, sterile



#### †Compared to open endotracheal suctioning

For trained personnel only. For specific indications and instructions for use, please refer to the product manual.

- Chen W, Hu S, Liu X, et al. Intensive care nurses' knowledge and practice of evidence-based recommendations for endotracheal suctioning: a multisite cross-sectional study in Changsha, China. BMC Nurs. 2021 Oct 4;20(1):186. doi: 10.1186/s12912-021-00715-y. PMID: 34607576; PMCID: PMC8488919.
- Dexter AM, Scott JB. Airway Management and Ventilator-Associated Events. Respir Care. 2019 Aug;64(8):986-993. doi: 10.4187/respcare.07107. PMID: 31346073.
- Ricard, J. D., Eveillard, M, Martin, Y, Barnaud, G, Branger, C, Dreyfuss, D. 2011. Influence of tracheal suctioning systems on health care workers' gloves and equipment contamination: Acomparison of closed and open systems. Am J Infect Control. 2011 Sep;39(7):605-7. doi: 10.1016/j.ajic.2010.10.031. Epub 2011 Apr 21. PMID: 21514008.
- Blakeman TC, Scott JB, Yoder MA, Capellari E, Strickland SL. AARC Clinical Practice Guidelines: Artificial Airway Suctioning. Respiratory Care. 2022;67(2):258-271. doi: 10.4187/respcare.09548.
- Elmansoury A, Said H. Closed suction system versus open suction. Egyptian Journal of Chest Diseases and Tuberculosis. 2017;66(3):509-515. doi:https://doi.org/10.1016/j.ejcdt.2016.08.001
- Solà I, Benito S. Closed tracheal suction systems versus open tracheal suction systems for mechanically ventilated adult patients. Cochrane Database of Systematic Reviews. Published online October 17, 2007. doi:https://doi. org/10.1002/14651858.cd004581.pub2
- Johnson KL, Kearney PA, Johnson SB, Niblett JB, MacMillan NL, McClain RE. Closed versus open endotracheal suctioning: costs and physiologic consequences. *Crit Care Med.* 1994 Apr;22(4):658-66. doi: 10.1097/00003246-199404000-00023. PMID: 8143475.
- Evaluation of microbial contamination "TY-CARE 16CH DETACH.CON MDI," Eurofins Biolab S.r.l., Italy, Final Report STULV21AA4195-1GLP.
- Taylor JE, Hawley G, Flenady V, Woodgate PG. Tracheal suctioning without disconnection in intubated ventilated neonates. Cochrane Database Syst Rev. 2011 Dec 7;2011(12):CD003065. doi: 10.1002/14651858.CD003065.pub2. PMID: 22161374; PMCID: PMC7004243.
- 10. Clifton-Koeppel R. Endotracheal tube suctioning in the newborn: a review of the literature. *Newborn and Infant Nursing Reviews*. 6. 94-99. 10.1053/j.nainr.2006.03.006.
- 11. Kalyn A, Blatz S, Feuerstake S, Paes B, Bautista C. Closed suctioning of intubated neonates maintains better physiologic stability: a randomized trial. *J Perinatol.* 2003 Apr-May;23(3):218-22. doi: 10.1038/sj.jp.7210883. PMID: 12732859.
- 12. Walsh BK, Hood K, Merritt G. Pediatric Airway Maintenance and Clearance in the Acute Care Setting: How To Stay Out of Trouble. *Respiratory Care*. 2011;56(9):1424-1444. doi:https://doi.org/10.4187/respcare.01323
- 13. Ramírez-Torres, C.A. et al. (2023) 'Closed Endotracheal Suction Systems for COVID-19: Rapid Review', Interactive Journal of Medical Research, 12.
- Link WJ, Spath EE, Wahle WM, Penny W, Glover JL. The Influence of Suction Catheter Tip Design on Tracheobronchial Trauma and Fluid Aspiration Efficiency. Anesthesia & Analgesia. 1976;55(2):290???297 doi:https://doi. org/10.1213/00000539-197603000-00036

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