



Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center – WO66-G609  
Silver Spring, MD 20993-0002

February 13, 2015

Covidien  
Ms. Kelsey Lee  
Regulatory Affairs Product Manager  
6135 Gunbarrel Avenue  
Boulder, CO 80301

Re: K142298  
Trade/Device Name: Shiley™ Neonatal, Pediatric & Pediatric Long  
Tracheostomy Tubes with TaperGuard Cuff  
Regulation Number: 21 CFR 868.5800  
Regulation Name: Tracheostomy Tube & Tube Cuff  
Regulatory Class: II  
Product Code: JOH  
Dated: January 9, 2015  
Received: January 14, 2015

Dear Ms. Lee:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

*Tejashri Purohit-Sheth, M.D.*

**Tejashri Purohit-Sheth, M.D.**  
Clinical Deputy Director  
DAGRID/ODE/CDRH FOR

Erin I. Keith, M.S.  
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Division of Anesthesiology, General Hospital,  
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Enclosure

## Indications for Use

510(k) Number (if known):     K142298    

**Device Name:** Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes with TaperGuard Cuff

### Indications for Use:

The Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes with TaperGuard Cuff are intended for use in providing tracheal access for airway management.

Prescription Use     X     AND/OR Over-The-Counter Use             
(Part 21 CFR 801 Subpart D) (21 CFR 801 Subpart C)

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CONCURRENCE OF CDRH, OFFICE OF DEVICE EVALUATION (ODE)

## 510(k) SUMMARY

In accordance with the Food and Drug Administration Rule to implement provisions of the Safe Medical Devices Act of 1990 and in conformance with 21 CFR 807.92, this information serves as a 510(k) Summary for the use of the Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes with TaperGuard Cuff.

**Submitted By:** Covidien  
6135 Gunbarrel Avenue  
Boulder, CO 80301

**Date:** February 12, 2015

**Contact Person:** Danielle Mueller  
Regulatory Affairs Manager  
(303) 305-2603

**Proprietary Name:** **Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes with TaperGuard Cuff**

**Common Name:** Tracheostomy Tube & Tube Cuff

**Device Classification Regulation:** 21 CFR 868.5800 – Class II

**Device Product Code & Panel:** JOH

**Predicate Devices:** **Shiley™ Cuffed Pediatric & Pediatric Long (K955680)**  
**Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes Cuffless (K122531)**  
**Smiths Medical Bivona Aire-Cuf Tracheostomy Tubes (K083641)**

### Device Description

The subject devices are single use; single cannula tracheostomy tubes that are intended to provide an artificial airway for airway management. The new features on the subject devices include a new plasticizer, the addition of the TaperGuard cuff, and additional sizes.

### Indications for Use/Intended Use

The subject and predicate Shiley™ devices have identical indications and similar indications to the BIVONA Aire-Cuf device. The indications for use are as follows:

The Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes with TaperGuard Cuff are intended for use in providing tracheal access for airway management.

### Technological Characteristics Comparison

The subject device only differs from the predicate Shiley™ Neonatal, Pediatric & Pediatric Long Tracheostomy Tubes Cuffless (K122531) with the addition of the cuff. They have identical indications, basic design and sizes. The subject device has a similar cuff to the predicate Shiley Cuffed Tubes (K955680) and BIVONA Tubes (K083641). The difference between the cuff on the subject and predicate tubes is the overall shape, which is taper-shaped in the subject versus barrel shaped in the predicates.

	<b>SUBJECT DEVICE</b>	<b>PREDICATE DEVICE</b>		
	Shiley™ Cuffed	Shiley™ Cuffed [K955680]	Shiley™ Cuffless [K122531]	BIVONA Aire-Cuf [K083641]
<b>Indications</b>	Intended for use in providing tracheal access for airway management.	Identical	Identical	Intended to provide direct airway access for a tracheotomized patient for up to 29 days. It may be reprocessed for a single-patient use up to 5 times for pediatric sizes.
<b>Patient population</b>	Neonatal & pediatric	Pediatric	Neonatal & pediatric	Neonatal & pediatric
<b>Sterilization</b>	EtO	EtO	EtO	EtO
<b>Cuff shape</b>	Taper	Barrel	N/A	Barrel
<b>Use</b>	Single patient use	Identical	Identical	Identical
<b>Sizes</b>	2.5-4.5 Neonatal 2.5-5.5 Pediatric 5.0-6.5 Pediatric long	4.0-5.5 Pediatric 5.0-6.5 Pediatric long	2.5-4.5 Neonatal 2.5-5.5 Pediatric 5.0-6.5 Pediatric long	2.5-4.0 Neonatal 2.5-5.5 Pediatric
<b>Materials</b>				
<b>Cannula</b>	Medical grade PVC with a citrate-based non-phthalate plasticizer	Medical grade PVC with a DEHP plasticizer	Medical grade PVC with a citrate-based non-phthalate plasticizer	Silicone
<b>Flange</b>	Medical grade PVC with a citrate-based non-phthalate plasticizer	Medical grade PVC with a DEHP plasticizer	Medical grade PVC with a citrate-based non-phthalate plasticizer	Silicone
<b>ISO 15mm connector</b>	Acrylonitrile butadiene styrene (ABS)	Medical grade PVC	ABS	ABS
<b>Cuff</b>	Medical grade PVC with a citrate-	Medical grade PVC with a DEHP	N/A	PVC

	based non-phthalate plasticizer	plasticizer		
<b>Inflation system</b>	Medical grade PVC with a citrate-based non-phthalate plasticizer & PVC	Medical grade PVC with a citrate-based non-phthalate plasticizer & PVC	N/A	Silicone & ABS
<b>Obturator</b>	Medical grade polypropylene	Medical grade polypropylene	Medical grade polypropylene	Medical grade polypropylene
<b>Neck strap</b>	Cotton	Cotton	Cotton	Cotton

### **Substantial Equivalence – Non-Clinical Evidence**

Product performance testing, including cuff air seal, cuff fluid seal, removal force, and cuff pressure mapping, were performed with the conclusion that the subject devices can be expected to perform at least as well as the predicate and can be considered substantially equivalent. Additionally, biocompatibility testing was performed per ISO 10993-1:2009 including the following: cytotoxicity, sensitization, irritation, acute systemic toxicity, genotoxicity, subchronic toxicity implantation, chemical characterization, and risk assessment. The device met all biocompatibility requirements for its intended use.

### **Substantial Equivalence – Clinical Evidence**

N/A – Clinical evidence was not necessary to show substantial equivalence.

### **Substantial Equivalence – Conclusions**

No new questions of safety and effectiveness have been raised. From the evidence presented in the Premarket Notification, the subject devices can be considered substantially equivalent.