



Food and Drug Administration
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June 14, 2016

Arrow International, Inc.
c/o Mr. William Paquin
Quality Assurance/Regulatory Affairs Manager
9 Plymouth Street
Everett, MA 02149

Re: K993966

Trade/Device Name: 8Fr. NarrowFlex Universal Intra-Aortic Balloon Catheter
Regulation Number: 21 CFR 870.3535
Regulation Name: Intra-aortic balloon and control system
Regulatory Class: Class II
Product Code: DSP
Dated: January 14, 2000
Received: January 19, 2000

Dear William Paquin:

This letter corrects our substantially equivalent letter of February 18, 2000.

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 Industry and Consumer Education 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" (21 CFR 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 Industry and Consumer Education 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,

Eric E. Richardson -S

for Bram D. Zuckerman, M.D.
Director
Division of Cardiovascular Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

Indications for Use

510(k) Number (if known)
K993966

Device Name
8Fr. Narrowflex Universal Intra-Aortic Balloon Catheter

Indications for Use (Describe)

The 8Fr. Narrowflex Universal Intra-Aortic Balloon Catheter is clinically indicated for the following conditions:

- a. Acute Coronary Syndrome
- b. Cardiac and Non-Cardiac Surgery
- c. Complications of Heart Failure

Type of Use (Select one or both, as applicable)

Prescription Use (Part 21 CFR 801 Subpart D)

Over-The-Counter Use (21 CFR 801 Subpart C)

PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON A SEPARATE PAGE IF NEEDED.

FOR FDA USE ONLY

Concurrence of Center for Devices and Radiological Health (CDRH) (Signature)

This section applies only to requirements of the Paperwork Reduction Act of 1995.

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510(k) Summary K993966**8Fr. NarrowFlex Universal Intra-Aortic Balloon Catheter**

Date Prepared: November 3, 1999

Date Summary Updated: July 10, 2015

A. Submitter's Name:Arrow International, Inc.
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Everett, MA 02149**Updated Correspondent Address:**Fusun Tufan
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Fax (978)250-5105**B. Company Contact**Michael Malis
Director RA/QA
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Phone (978)250-5100
Fax (978)250-5105**C. Device Name**Trade Name: 8Fr. NarrowFlex Universal Intra-Aortic Balloon Catheter
Common Name: Intra-aortic balloon catheter
Classification Name: Balloon, Intra-Aortic and Control System**D. Predicate Devices**

The device is substantially equivalent to the current legally Arrow 8Fr. NarrowFlex Universal Intra-Aortic Balloon Catheter Kit.

E. Description of Device

The device is a dual lumen percutaneously inserted Intra-Aortic IAB catheter, 8 Fr. in size, with two independent non-communicating lumens. The outer lumen is comprised of an inflatable bladder connected to the catheter distal tip and to the IAB tip outer surface. The inner lumen is comprised of a Luer adapter connected to the proximal end of the inner lumen and to the IAB tip inner surface. The IAB inner lumen is used for placement of the device with a guidewire and the outer lumen is used to shuttle helium gas to and from the inflatable bladder. The IAB is timed to inflate in the aorta during the diastolic relaxation of the heart and deflate during the systolic contraction of the heart, resulting in increased blood supply to the heart muscle and decreased work load for the left ventricle.

The catheter is available in two sizes, 30cc and 40cc, and is identical in appearance and function to

the predicate devices.

F. Intended Use

The 8Fr. NarrowFlex Universal Intra-Aortic Balloon Catheter is indicated for use in any of the following conditions:

- a. Acute Coronary Syndrome
- b. Cardiac and Non-Cardiac Surgery
- c. Complications of Heart Failure

G. Technological Characteristics

The device has the same exact technological characteristics as the predicate.

The tests in the submission include:

- IAB performance comparisons, Inflate/deflate, total cycle time and volume (all rates).
- Nitinol inner lumen stiffness and buckling point - Stiffness bend test and buckling point comparison test results.

The results of the laboratory tests demonstrate that the device is substantially equivalent to the legally marked predicate device.