E·LUMINEXX®
Vascular Stent

INSTRUCTIONS FOR USE (IFU)

BARD | PERIPHERAL VASCULAR

B05696 Vers.3/11-09
**BARD® E•LUMINEXX®** Vascular Stent Delivery System Diagrams

**BARD S.A.F.E.®** Delivery System with the **PERFORMAXX®** Grip

**BARD S.A.F.E.®** Delivery System after removal of the **PERFORMAXX®** Grip

*S.A.F.E. designates Secure Adhesive FreE Tip Design*
INSTRUCTIONS FOR USE

Read the Bard® E-Luminexx® Vascular Stent IFU thoroughly. Also, thoroughly read the IFUs supplied with any other interventional devices to be used in conjunction with the system.

- Please use the product illustration at the beginning of this booklet to guide you through the device description.
- Please use the fold-out, step-by-step procedure illustrations at the end of this booklet to guide you through the procedure description.

The device is supplied in sterile condition. All materials inside the sterile barrier pouch (the delivery system and stent as well as the carrier tube and pouchliner) are sterile. The external surface of the sterile pouch and the product carton should not be considered sterile.

Federal (U.S.A) law restricts this device to sale by or on the order of a physician.

1.0 DEVICE NAME

The brand name of the device is Bard® E-Luminexx® Vascular Stent.

- The Stent (Implant) is equipped with four highly visible radiopaque Puzzle® Tantalum Markers on both the proximal and distal end.
- The Bard® E-Luminexx® Vascular Stent is loaded on the Bard S.A.F.E. Delivery System with the PerforMAXX® Grip.

2.0 PRODUCT DIAGRAMS (PLEASE REFER TO PAGE 2)

3.0 DEVICE DESCRIPTION

3.1 Stent (Implant):

The Bard® E-Luminexx® Vascular Stent is a self-expanding, flexible, nitinol (nickel-titanium alloy) stent that expands to its preset diameter upon exposure to body temperature. The stent has a segmental repeating pattern and an open cell geometry with flared ends to help prevent dislocation or migration. Partial cuts around the circumference of the stent cylinder provide enhanced flexibility and allow segment-by-segment expansion. The stent is available in a wide range of diameters and lengths.

The Bard® E-Luminexx® Vascular Stent is available in the sizes indicated as follows, listing all item codes for the 80 cm and 135 cm long stent delivery system:

<table>
<thead>
<tr>
<th>Diameter</th>
<th>20 mm</th>
<th>30 mm</th>
<th>40 mm</th>
<th>50 mm</th>
<th>60 mm</th>
<th>80 mm</th>
<th>100 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 mm</td>
<td>ZBM07020</td>
<td>ZBM07030</td>
<td>ZBM07040</td>
<td>ZBM07050</td>
<td>ZBM07060</td>
<td>ZBM07080</td>
<td>ZBM07100</td>
</tr>
<tr>
<td>8 mm</td>
<td>ZBM08020</td>
<td>ZBM08030</td>
<td>ZBM08040</td>
<td>ZBM08050</td>
<td>ZBM08060</td>
<td>ZBM08080</td>
<td>ZBM08100</td>
</tr>
<tr>
<td>9 mm</td>
<td>ZBM09020</td>
<td>ZBM09030</td>
<td>ZBM09040</td>
<td>ZBM09050</td>
<td>ZBM09060</td>
<td>ZBM09080</td>
<td>ZBM09100</td>
</tr>
<tr>
<td>10 mm</td>
<td>ZBM10020</td>
<td>ZBM10030</td>
<td>ZBM10040</td>
<td>ZBM10050</td>
<td>ZBM10060</td>
<td>ZBM10080</td>
<td>ZBM10100</td>
</tr>
</tbody>
</table>
Each end of the stent has four highly visible radiopaque Puzzle® Tantalum Markers to facilitate accurate stent placement (see Figure A1). Before deployment, the stent (A) is compressed between the inner catheter and outer catheter at the distal end of the delivery system. In this compressed configuration, the stent struts lie close together and the radiopaque markers appear as a contiguous band at each end of the stent (B1 and B2). The stent MUST NOT be balloon expanded beyond its labeled diameter.

A single radiopaque marker (C) on the outer catheter of the delivery system is attached approximately 6 mm proximal to the distal end of the delivery system. Prior to deployment, this radiopaque marker overlaps the distal markers (B1) on the stent.

The following information regarding stent length change may assist in proper stent length selection and may facilitate proper placement in the body resulting in greater accuracy of stent placement. The information within the following table indicates the change in overall length of the stent to be expected when deploying the stent (from its compressed condition within the catheter) in the vessel at the recommended oversizing.

<table>
<thead>
<tr>
<th>Unconstrained Stent Diameter (mm)</th>
<th>Reference Vessel Diameter (mm)</th>
<th>Average Length Change at Recommended Oversizing (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>-0.5</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>-2.5</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>0.5</td>
</tr>
</tbody>
</table>

3.2 Delivery System:

The BARD S.A.F.E.® 6F Delivery System has catheter working lengths of 80 cm and 135 cm and requires a minimum 8F guiding catheter or a minimum 6F introducer sheath. The delivery system has a soft and flexible catheter tip (D) formed from the outer catheter. The catheter tip is tapered to accommodate a 0.035” (0.89 mm) guidewire. The guidewire exit port is located at the proximal end of the delivery system. Prior to inserting
the delivery catheter over the guidewire, the system must be flushed with sterile saline at the two female Luer ports until saline drips from the distal tip of the catheter. Flushing eliminates air bubbles from the inner catheter lumen and lubricates the surface between the inner and outer catheters. The first Luer port is located at the proximal end of the device (E) and the second is found within the T-Luer adapter (F). The BARD S.A.F.E.® Delivery System also features a next generation StentLoc® Mechanism where the distal catheter is specifically designed to apply compression along the entire length of the stent to prevent unintentional movement or misplacement during deployment.

3.3 Deployment Methods:

The BARD S.A.F.E.® Delivery System with the PerfomMAXX® Grip (G) is a multifunctional stent deployment system that offers four different stent deployment options:

- “The Trigger Method”
- “The Slide Method”
- “The Combination Method (Trigger/Slide)”
- “The Conventional Method”

3.3.1 The Trigger Method

Stent deployment can be accomplished using “The Trigger Method” by pumping the trigger (H) of the handle. “The Trigger Method” offers micro-clicks for ultimate control (2 mm at a time) or full pumps for rapid, one-handed stent deployment. (See Figure 1)

3.3.2 The Slide Method

Using “The Slide Method,” the stent can be deployed by pulling back the slide mechanism (J). (See Figure 2)

3.3.3 The Combination (Trigger/Slide) Method

“The Combination Method” utilizes “The Trigger Method” until the stent has achieved wall apposition and then switches to “The Slide Method” to complete the deployment. (See Figures 1 & 2)

3.3.4 The Conventional Method

“The Conventional Method” requires the user to remove the white conversion tab (M) before snapping the catheter out of the PerfomMAXX® Grip. The stent can then be deployed by using the conventional “pin & pull-back” technique by pulling back the T-Luer adapter (F). (See Figure 3)

Figure 1: [Trigger Method]
Figure 2: [Slide Method]
Figure 3: [Conventional Method]

A removable red Safety Clip (K) prevents accidental or premature stent release. DO NOT remove the Safety Clip (K) until you are ready to deploy the stent. Just prior to deploying the stent, the Safety Clip (K) must be removed by pressing the two red tabs (L) together and removing the clip from the grip.
3.4 Radiopaque Markers and Verification of Positioning:

There are four radiopaque tantalum markers on each end of the stent and an additional radiopaque marker band on the outer catheter of the deployment system. In its compressed stage, the tantalum markers appear like a contiguous band at each end of the stent:

- Four radiopaque tantalum markers on each end of the stent indicate the location of the distal (B1) and proximal end of the compressed stent (B2)
- One radiopaque marker band is attached to the outer catheter (C, same position as B1) and overlaps the four distal markers on the stent prior to deployment. This moving marker indicates the amount of stent deployed during the procedure.

During stent deployment, the radiopaque markers on the stent (B1 and B2) should not move. The marker band (C) on the outer catheter will retract with the outer catheter during stent deployment. When the moving marker is past the proximal marker (B2) by 2 cm, the stent is fully released.

4.0 INDICATIONS FOR USE

The Bard® E-Luminexx® Vascular Stent is indicated for the treatment of iliac occlusive disease in patients with symptomatic vascular disease of the common and/or external iliac arteries up to 126 mm in length with a reference vessel diameter of 5 to 9 mm.

5.0 CONTRAINDICATIONS

There are no known contraindications.

6.0 WARNINGS

6.1 General Warnings:

- Should unusual resistance be felt at any time during the procedure, the entire system (introducer sheath or guiding catheter and stent delivery system) should be removed as a single unit.
- Patients with known hypersensitivity to nickel-titanium may suffer an allergic reaction to this implant.
- Stenting across a major bifurcation may hinder or prevent future diagnostic or therapeutic procedures.
- In patients requiring the use of antacids and/or H2-antagonists before or immediately after stent placement, oral absorption of antiplatelet agents (e.g., aspirin) may be adversely affected.
- Overstretching the artery may result in spasm, dissection, and/or perforation that may result in serious complications.
- Longterm outcomes following repeated dilatation of endothelialized stents are unknown.
- A limited subset of patients recieved overlapped stents in the clinical study; therefore, data regarding overlapped stents is limited.
- Appropriate diameter sizing of the stent to the target lesion is required to reduce the possibility of stent migration.
- The Bard® E-Luminexx® Vascular Stent is a self-expanding nitinol stent that MUST NOT be expanded beyond its labeled diameter by dilatation with a PTA balloon.

6.2 Device Warnings:

- If the red Safety Clip has been removed or becomes inadvertently detached from the grip, DO NOT use the device.
- The delivery system catheter is intended for stent deployment only and not for any other use.
- If placing two overlapping stents, both stents must have identical diameters and similar metal composition.
• Once the stent is partially or fully deployed, micro-adjustments are no longer possible and the stent should not be dragged or repositioned in the lumen.
• Once stent deployment has been initiated, the stent cannot be recaptured using the stent delivery system.

7.0 PRECAUTIONS

This device is intended for use only by physicians who are familiar with the principles, clinical applications, complications, side effects, and risks commonly associated with iliac stenting. It is strongly recommended that physician operators adhere to all applicable institutional, local, state, and federal guidelines and protocols regarding adequate procedural training.

7.1 System Handling Precautions:
• Visually inspect the packaging to verify that the sterile barrier is intact. DO NOT use if the sterile barrier is open or damaged.
• DO NOT use the device after the “Use By” date specified on the label.
• Visually inspect the Bard® E-Luminex® Vascular Stent to verify that the device has not been damaged due to shipping or improper storage. DO NOT use damaged equipment.
• Take care to avoid unnecessary handling, which may kink or damage the delivery system. DO NOT use if device is kinked.
• Non-compliance with sterility precautions may lead to infectious complications.
• An appropriate guidewire is required before introducing the stent deployment system into the body, and must remain in place during the introduction, manipulation and eventual removal of the stent deployment system.
• The Bard® E-Luminex® Vascular Stent is only compatible with a 0.035” (0.89 mm) guidewire.
• When catheters are in the body, they should be manipulated only under fluoroscopy with radiographic equipment that produces high quality images.
• Read and understand the IFU for any interventional device to be used in conjunction with the Bard® E-Luminex® Vascular Stent.
• The delivery system is not designed for use with power injection systems.
• During system flushing, DO NOT use the system if fluid is not observed exiting the catheter at the distal tip.
• Faulty placement techniques could lead to stent deployment failure.
• Do not kink the delivery system.
• The delivery system will not function properly until the Safety Clip (K) is removed (See Figure A2). As a precaution against accidental stent deployment, the Safety Clip should not be removed until the stent is ready to be deployed.
• Store in a cool, dry, dark place.
• Administration of adjunctive drug therapy before and after the procedure is left to the discretion of the treating physician (e.g. antiplatelet or anticoagulation).
• If the PerforMaxx® Grip is removed from the stent delivery system, it MUST NOT be reattached. In this event, the stent MUST be deployed using “The Conventional Method” of deployment. (See instructions for “The Conventional Method”.)
• This product has been designed for single patient use only. DO NOT reuse. DO NOT resterilize.
• After use, the stent delivery system is a potential biohazard. Handle and dispose of this product in accordance with accepted medical practice and with applicable local, state and federal laws and regulations.

7.2 Stent Placement Precautions:
• The stent experiences minimal length changes during deployment. (See Table 2)
Prior to stent deployment, remove all slack from the catheter delivery system to avoid stent misplacement.

**DO NOT** remove the white conversion tab (M) unless you have selected “The Conventional Method” for stent deployment.

**DO NOT** remove the Safety Clip (K) until you are ready to deploy the stent.

**DO NOT** hold the delivery system catheter during stent deployment. *(See Figure A3/A4)*

**DO NOT** overlap more than two stents.

As with all self-expanding nitinol stents, careful attention during stent deployment is warranted to mitigate the potential for movement of the stent.

If more than one stent is required to cover the lesion, the distal lesion should be stented first, followed by stenting of the proximal lesion. Stenting in this order obviates the need to cross the proximal stent for placement of the distal stent, and reduces the potential to dislodge stents that have already been placed.

To maximize stent placement accuracy, slowly and deliberately deploy the distal portion of the stent until you have visual confirmation of wall apposition before steadily deploying the remaining length of the stent.

### 7.3 Post-Implant Precautions:

- Caution should be used when crossing a deployed stent with any adjunctive device.
- In the event of thrombosis of the expanded stent, thrombolysis and PTA may be attempted.
- In the event of complications such as infection, pseudoaneurysm or fistulization, surgical removal of the stent may be required.
- The safety and effectiveness of the *BARD* E-LUMINEXX® Vascular Stent has not been established in patients beyond 9 months of follow-up.

### 8.0 Summary of Clinical Investigations

The purpose of the clinical study was to provide the human clinical trial experience to support the safety and effectiveness of the *BARD* E-LUMINEXX® Vascular Stent. The U.S. clinical trial proved the device to be safe and effective for its intended use.

Data gathered from the clinical study were collected on both the *BARD* LUMINEXX® Iliac Stent and the *BARD* LUMINEXX® 6F Iliac Stent (referred to collectively as the LUMINEXX® Stent). The stent in each of these devices was the same; however, the delivery systems were different. The *BARD* LUMINEXX® Iliac Stent had a 7F profile and the *BARD* LUMINEXX® 6F Iliac Stent had a 6F profile. The commercial device, the *BARD* E-LUMINEXX® Vascular Stent, uses essentially an electropolished version of the LUMINEXX® Stent and includes a handgrip on the 6F delivery system. The clinical data collected with both the *BARD* LUMINEXX® Iliac Stent and the *BARD* LUMINEXX® 6F Iliac Stent support the safety and effectiveness of the *BARD* E-LUMINEXX® Vascular Stent.

A prospective, multi-center, non-randomized clinical study was conducted at nine sites in the United States using the LUMINEXX® Stent. A total of 156 lesions were treated in 151 limbs using 164 devices. The study objective was to determine the safety and effectiveness of the LUMINEXX® Stent for the treatment of common and/or external iliac artery occlusive disease.

### 8.1 Study Endpoints and additional data:

The rate of Major Adverse Clinical Events (MACE) was the primary combined safety and effectiveness endpoint for the study. MACE was defined as peri-procedural death (death during the procedure or prior to hospital discharge), target lesion revascularization (any treatment to bypass or increase lumen diameter within the stented segment or within 5mm of its margins), or stented segment restenosis (> 50% stenosis as determined...
by duplex ultrasound) at nine months post-procedure. Bayesian statistical models, using non-informative prior probabilities for the parameters of interest, were used to evaluate whether there was a 96% probability that the MACE rate would be less than a maximum threshold of 25% at nine months post-procedure.

Additionally for informational purposes, including anatomic success (i.e., achievement of < 30% final residual diameter stenosis) and primary patency (continuous flow through the treated segment without revascularization at nine months post-procedure) were also evaluated.

Evaluations and definitions were adapted from standards established by the Society of Interventional Radiology (SIR), the Society for Vascular Surgery (SVS), the International Society of Cardiovascular Surgery (ISCVS), and described by the SIR Technology Assessment Committee.

To ensure impartiality, all adverse events were submitted for review by an independent Medical Monitor (i.e., a physician independent of the LUMINEXX® Clinical Study and Sponsor). All available information, either from the source documents or summarized on the case report forms was used to adjudicate an event.

8.2 Patient Population:

The protocol allowed for a broad spectrum of patients with iliac artery occlusive disease to be treated with the LUMINEXX® Stent, including patients with poor distal runoff, concomitant or recent distal bypass surgery, and/or restenotic lesions. The intent was to test the device in a non-select population that would more closely represent the clinical population following device commercialization. Patients diagnosed with preoperative coagulation disorders, contraindications to antiplatelet therapy, or who demonstrated the presence of soft, thrombotic, or embolic material within or adjacent to the lesion(s) being treated with the study device were excluded. Characteristics of patients enrolled in the study including age, gender, medical history, and previous vascular procedures are presented in Table 4.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Summary Statistics</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td>67.31 ± 10.31</td>
<td>65.55% to 69.07%</td>
</tr>
<tr>
<td>Percent Male</td>
<td>54.48% (73/134)</td>
<td>46.04% to 62.67%</td>
</tr>
<tr>
<td>History of Myocardial Infarction (MI)</td>
<td>23.13% (31/134)</td>
<td>16.80% to 30.96%</td>
</tr>
<tr>
<td>History of Percutaneous Transluminal Coronary Angioplasty (PTCA)</td>
<td>40.30% (54/134)</td>
<td>32.38% to 48.76%</td>
</tr>
<tr>
<td>History of Coronary Artery Bypass Graft (CABG)</td>
<td>25.37% (34/134)</td>
<td>18.76% to 33.36%</td>
</tr>
<tr>
<td>History of Cardiovascular Accident (CVA) or Transient Ischemic Attack (TIA)</td>
<td>14.18% (19/134)</td>
<td>9.27% to 21.09%</td>
</tr>
<tr>
<td>History of Diabetes Mellitus</td>
<td>26.87% (36/134)</td>
<td>20.08% to 34.94%</td>
</tr>
<tr>
<td>History of Hyperlipidemia</td>
<td>73.68% (98/134)</td>
<td>65.61% to 80.43%</td>
</tr>
<tr>
<td>History of Hypertension</td>
<td>89.55% (120/134)</td>
<td>83.23% to 93.67%</td>
</tr>
<tr>
<td>History of Peripheral Vascular Disease (PVD)/Claudication</td>
<td>97.76% (131/134)</td>
<td>93.62% to 99.24%</td>
</tr>
</tbody>
</table>

1 All tables: Mean ± Standard Deviation for all quantitative variables, Percent (# with characteristic / sample size)
2 All tables: the Score Interval Method was used for confidence interval percentages
3 Number of patients reporting = 134
4 One patient did not have a value recorded for History of Hyperlipidemia

8.3 Methods:

Baseline patient assessments included a clinical examination and clinical history targeting the extent of peripheral vascular disease, a clinical category determination, and a thigh/brachial index measurement. At the time of the
procedure, lesions were assessed angiographically to determine whether they fit the protocol requirements. Table 5 provides pre-treatment lesion characteristics. Antiplatelet/anticoagulant therapy and pre-dilation/post-dilation were left to physician discretion. Overlapping stent placement was permitted and twelve stents in six lesions were placed in an overlapping configuration.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Summary Statistics</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limb to be Treated</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left</td>
<td>42.54% (57/134)</td>
<td>34.49% to 51.00%</td>
</tr>
<tr>
<td>Right</td>
<td>44.78% (60/134)</td>
<td>36.62% to 53.22%</td>
</tr>
<tr>
<td>Both</td>
<td>12.69% (17/134)</td>
<td>8.07% to 19.38%</td>
</tr>
<tr>
<td><strong>De Novo Lesion</strong></td>
<td>99.36% (155/156)</td>
<td>96.46% to 99.89%</td>
</tr>
</tbody>
</table>

| Angiographic Core Lab Data Combined with Site-Reported Data for Missing Core Lab Values (by Lesion) |
|-------------------------------------------------|-------------------------------------------------|
| Minimum Lumen Diameter (MLD) (mm)               | 2.16 ± 1.16 (n=156)                             |
| Reference Lumen Diameter (RLD) (mm)             | 6.95 ± 1.15 (n=156)                             |
| Percent Stenosis                               | 69.07% ± 14.88% (n=156)                        |
| Lesion Length (mm)                             | 25.72 ± 18.16 (n=155)                           |

Lesion length was not reported by the core lab or the site for one patient.

At 30 days post-procedure, a telephone contact was made to assess any potential adverse events since the time of the procedure. At nine months post-procedure, a clinic visit was required and the primary and secondary endpoints were assessed. The nine-month follow-up evaluation included a clinical examination, an assessment of adverse events, and a duplex ultrasound evaluation.

8.4 Results:

Results of the LUMINEXX® Clinical Study are presented in Table 6. Thirty-day follow-up compliance was 97.76% (131/134 patients). The percentage of in-office follow-up at nine months post-procedure was 82.09% (110/134 patients); three additional patients were contacted by telephone and one patient's medical chart was reviewed. Ninety-seven of 134 patients had evaluable ultrasounds that were included in the nine-month assessment interval.

Primary Effectiveness and Safety Endpoint: Using Bayesian statistical models, the study was considered a success if there was at least a 96% probability that the nine-month MACE rate was less than a maximum threshold of 25%. The model was developed on a time-to-event basis within various subintervals of the follow-up period.* At final analysis, the posterior probability was 99.24% that the nine-month MACE rate was less than 25%. Therefore, the LUMINEXX® Clinical Study successfully achieved the primary endpoint outlined in the protocol and demonstrated that the LUMINEXX® Stent was safe and effective for its intended use.

<table>
<thead>
<tr>
<th>Table 6: The LUMINEXX® Clinical Study Endpoints</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Endpoint:</strong></td>
</tr>
<tr>
<td>Posterior Probability: <strong>99.24%</strong> that the nine-month MACE rate was &lt; 25%</td>
</tr>
</tbody>
</table>

* Nine months post-procedure (defined as 240-365 days)

7 Using per protocol Bayesian model

* A three-piece piece-wise exponential model was employed for the time until MACE event. The first and last months of exposure were assumed to have different risks than the middle seven months. The three parameters, λ1, λ2, and λ3 were used within the model to characterize the efficacy of the Luminexx Iliac stent. The probability conditional on λ1 , λ2, and λ3 that a patient is free of MACE at 9 months is exp(-λ1 -7λ2 - λ3). Non-informative priors were used in the model.
Additional collected data:

- **Primary Patency**: Primary patency was defined as continuous flow through the treated segment without revascularization at nine months post-procedure (i.e., the patient did not have a revascularization procedure, amputation, or bypass surgery). The primary patency rate at nine months post-procedure was 94.03% (95% CI: 88.66% to 96.94%).
- **Stent Deployment Success**: The stent deployment success rate, defined as the ability of the stent to be successfully delivered and deployed at the target lesion without device malfunction or local arterial complication, was 95.12%.
- **Anatomic Success**: Anatomic success was defined as achievement of < 30% final residual diameter stenosis measured at the narrowest point of the stented lumen. The rate of anatomic success based on core lab measurements was 87.50%, while the rate reported by the investigative sites was 98.72%.

<table>
<thead>
<tr>
<th>Table 7: Additional Collected Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Patency</td>
</tr>
<tr>
<td>Stent Deployment Success</td>
</tr>
<tr>
<td>Anatomic Success (Core Lab)</td>
</tr>
<tr>
<td>Anatomic Success (Site Reported)</td>
</tr>
</tbody>
</table>

**8.5 Gender Bias:**

Males accounted for 54.48% of patients in the study. A comparison between gender and MACE demonstrated a slightly higher incidence of MACE in females than males, but the difference was not significant (Fisher’s Exact Test, P = 0.184).

**8.6 Clinical Study Conclusions:**

The U.S. multi-center study of the LUMINEXX® Stent achieved its primary safety and effectiveness endpoint. The posterior probability was 99.24% that the MACE rate was less than 25% at nine months post-procedure. This probability along with observed rates for other clinical outcomes demonstrated that the LUMINEXX® Stent is safe and effective for use in the treatment of iliac artery occlusive disease.

**9.0 Summary of Adverse Events**

All adverse events through the nine-month follow-up window were submitted for adjudication by an independent Medical Monitor. The incidence of adverse events was presented descriptively as a percentage of events (i.e., patients could have more than one event) per the total patient population (with 95% CI). No unanticipated adverse device effects (UADE) were reported in the LUMINEXX® Clinical Study. Adverse events were summarized as serious or non-serious and attributed to the stent, procedure, or pre-existing or concomitant condition. Seven patients died through the nine-month follow-up interval (5.2%). None of the deaths occurred within the peri-procedural (< 30 days post-index procedure) timeframe. One patient death (0.75%) was related to complications of thrombectomy of the target lesion and a subsequent chain of revascularization procedures and systemic events. The remaining deaths were the result of pre-existing and/or concomitant conditions, and were not related to the study procedure or the study device.

Table 7 provides a summary of in-hospital serious adverse events (SAEs) and Table 8 provides a cumulative summary of all reported SAEs ≤ nine months post-procedure (≤ 365 days). The more prevalent SAEs observed through the nine-month follow-up interval are summarized below:
- **Target Limb Revascularization:** Target limb revascularization was defined as a revascularization procedure outside the margins of the treatment area (i.e., > 5 mm from the proximal or distal end of the stent), but in the same limb. Target limb revascularization was noted in 15 patients (11.19%) through the nine-month follow-up. Revascularization procedures were performed to treat progression of disease or conditions that were not present or did not need treatment at baseline. None of the revascularization events were attributed to either the LUMINEX® Stent or the study procedure.

- **Non-Target Limb Revascularization:** Non-target limb revascularizations were noted in 12 patients (8.96%) through the nine-month follow-up period. As with target limb revascularization, these non-target limb procedures represent a progression of the peripheral disease process.

- **Amputation:** Four amputations were reported (2.24%) through the nine-month interval. All four amputations were performed on the study-limb and were associated with distal-disease progression. Two amputations were performed below-the-knee, one above-the-knee, and one amputation involved a toe.

- **Major Bleeding Event:** Eight patients (5.97%) experienced major bleeding events throughout the course of the study. Six of these events were unrelated to the study device or procedure. Two patients experienced major bleeding events attributed to the index procedure (1.49%).

- **Sepsis:** Six patients (eight incidences) experienced sepsis during the course of the study; five patients (3.73%) and six incidences occurred through the nine-month follow-up interval (≤ 365 days). No incidents of sepsis were attributable to either the device or the iliac stenting procedure.

<table>
<thead>
<tr>
<th>Table 7: In-Hospital Serious Adverse Events</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Events per Total Patient Population</strong></td>
<td><strong>Event</strong></td>
</tr>
<tr>
<td>Distal Revascularization (Target Limb)</td>
<td>4.48% (6/134)</td>
</tr>
<tr>
<td>Revascularization (Non-target Limb)</td>
<td>4.48% (6/134)</td>
</tr>
<tr>
<td>Major Bleed</td>
<td>1.49% (2/134)</td>
</tr>
<tr>
<td>Arterial Thrombosis</td>
<td>1.49% (2/134)</td>
</tr>
<tr>
<td>False Aneurysm</td>
<td>1.49% (2/134)</td>
</tr>
<tr>
<td>Respiratory Failure</td>
<td>1.49% (2/134)</td>
</tr>
<tr>
<td>Amputation on Study Side Limb</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>AV Fistula Stenosis</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Dissection (Target Vessel)</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Myocardial Infarction</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Claudication/Rest Pain (Non-target limb)</td>
<td>0.75% (1/134)</td>
</tr>
<tr>
<td>Claudication/Rest Pain (Target Limb)</td>
<td>0% (0/134)</td>
</tr>
<tr>
<td>Critical Limb Ischemia</td>
<td>0% (0/134)</td>
</tr>
<tr>
<td>Sepsis</td>
<td>0% (0/134)</td>
</tr>
<tr>
<td>Target Lesion Revascularization</td>
<td>0% (0/134)</td>
</tr>
<tr>
<td>Death</td>
<td>0% (0/134)</td>
</tr>
</tbody>
</table>
### Table 8 - Cumulative Serious Adverse Events through “9 Months” (<365 days)

Events per Total Patient Population

<table>
<thead>
<tr>
<th>Event</th>
<th>Summary Statistics</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distal Revascularization (Target Limb)</td>
<td>11.19% (15/134)</td>
<td>6.90% to 17.65%</td>
</tr>
<tr>
<td>Revascularization (Non-target Limb)</td>
<td>8.96% (12/134)</td>
<td>5.2% to 15.0%</td>
</tr>
<tr>
<td>Major Bleed</td>
<td>5.97% (8/134)</td>
<td>3.06% to 11.34%</td>
</tr>
<tr>
<td>Death</td>
<td>5.22% (7/134)</td>
<td>2.55% to 10.39%</td>
</tr>
<tr>
<td>Angina/Coronary Ischemia</td>
<td>5.22% (7/134)</td>
<td>2.55% to 10.39%</td>
</tr>
<tr>
<td>Sepsis/Infection</td>
<td>4.48% (6/134)</td>
<td>2.07% to 9.42%</td>
</tr>
<tr>
<td>Arterial Thrombosis</td>
<td>3.73% (5/134)</td>
<td>1.60% to 8.44%</td>
</tr>
<tr>
<td>Target Lesion Revascularization</td>
<td>3.73% (5/134)</td>
<td>1.60% to 8.44%</td>
</tr>
<tr>
<td>False Aneurysm</td>
<td>2.99% (4/134)</td>
<td>1.17% to 7.42%</td>
</tr>
<tr>
<td>Amputation on Study Side Limb</td>
<td>2.99% (4/134)</td>
<td>1.17% to 7.42%</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>2.99% (4/134)</td>
<td>1.17% to 7.42%</td>
</tr>
<tr>
<td>Stroke</td>
<td>2.24% (3/134)</td>
<td>0.76% to 6.38%</td>
</tr>
<tr>
<td>Myocardial Infarction</td>
<td>2.24% (3/134)</td>
<td>0.76% to 6.38%</td>
</tr>
<tr>
<td>Carotid Artery Disease</td>
<td>2.24% (3/134)</td>
<td>0.76% to 6.38%</td>
</tr>
<tr>
<td>Congestive Heart Failure</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Renal Complications</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Respiratory Failure</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Anemia</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>AV Fistula Stenosis</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Wound Infection</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Claudication/Rest Pain (Non-target limb)</td>
<td>1.49% (2/134)</td>
<td>0.41% to 5.28%</td>
</tr>
<tr>
<td>Claudication/Rest Pain (Target Limb)</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Dissection (Target Vessel)</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Critical Limb Ischemia</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Hypotension</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Aneurysm – Site Other</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Cholelithiasis</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Colon Cancer</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Fever</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Hematuria</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Ischemic Collitis</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Lumbar Spinal Stenosis</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Myocardial Ischemia</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Prostatic Hypertrophy</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Shortness of Breath</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Small Bowel Obstruction</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Sudden Cardiac Death</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Urinary Retention</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
<tr>
<td>Cardiovascular Disease</td>
<td>0.75% (1/134)</td>
<td>0.13% to 4.11%</td>
</tr>
</tbody>
</table>
10.0 POTENTIAL COMPLICATIONS

Potential adverse events that may occur following Bard® E-Luminexx® Vascular Stent implantation include, but are not limited to:

• Abrupt stent closure
• Allergic reaction to nitinol
• Amputation
• Aneurysm
• Angina/coronary ischemia
• Arterial aneurysm
• Arterial occlusion/thrombus, near the puncture site
• Arterial occlusion/thrombus, remote from puncture site
• Arterial occlusion/restenosis of the treated vessel
• Arterial rupture
• Arteriovenous fistula
• Arrhythmia
• Atheroembolization
• Death related to procedure
• Death unrelated to procedure
• Embolization, arterial
• Embolization, stent
• Fever
• Hematoma bleed, remote site
• Hematoma bleed at needle, device path: nonvascular procedure
• Hematoma bleed, puncture site: vascular procedure
• Hypersensitivity reactions
• Hypotension/hypertension
• Intimal injury/dissection
• Ischemia/infarction of tissue/organ
• Ischemia requiring intervention (bypass or amputation of toe, foot or leg)
• Local infection
• Malposition (failure to deliver the stent to the intended site)
• Myocardial infarction
• Pseudoaneurysm formation
• Pulmonary embolism
• Renal failure
• Restenosis of the stented artery
• Septicemia/bacteremia
• Stent malapposition
• Stent migration
• Stent strut fracture
• Stroke
• Vasospasm
• Worsened claudication/rest pain
• Tissue necrosis
• Venous occlusion/thrombus, remote from puncture site
• Venous occlusion/thrombus, near the puncture site
11.0 DIRECTIONS FOR USE

11.1 Procedural Access:

- Gain access to the treatment site utilizing appropriate accessory equipment compatible with the 6F Bard® E-LumineXX® Vascular Stent System.
- The working lengths of the Bard S.A.F.E.® 6F Delivery System are indicated on the labels and on the device itself. In order to allow complete stent deployment, Do Not use an introducer sheath or guiding catheter longer than the indicated working length.
- The Bard S.A.F.E.® 6F Delivery System requires a minimum 8F guiding catheter, or a minimum 6F introducer sheath.
- Via the femoral route, insert a 0.035" (0.89 mm) guidewire under fluoroscopic guidance through the appropriate introducer sheath or guiding catheter and pass the lesion. (See Figure A5, A6, A7 and A8)

11.2 Stent Selection:

- WARNING: Appropriate diameter sizing of the stent to the target lesion is required to reduce the possibility of stent migration.
- Evaluate and mark the stricture. Measure the length of the stricture and the diameter of the target lumen to assist in stent selection.
- The stent should be approximately 1 mm larger in diameter than the target lumen.
- Select the appropriate length of stent to traverse the stricture.
- Allow approximately 5 – 10 mm of the stent to extend beyond each end of the stricture. This will allow for adequate stent coverage at either end of the stenosis.
- WARNING: If placing two overlapping stents, both stents must have identical diameters and similar metal composition.
- Stents should overlap by at least 5 mm to include the flared ends.
- PRECAUTION: Do Not overlap more than two stents.

11.3 General Directions:

- PRECAUTION: Administration of adjunctive drug therapy before and after the procedure is left to the discretion of the treating physician.
- Pre-dilatation of the stricture with an appropriately sized balloon dilatation catheter is left to the discretion of the treating physician.

11.4 Preparation of the Stent Delivery System:

- PRECAUTION: Visually inspect the packaging to verify that the sterile barrier is intact. Do Not use if the sterile barrier is open or damaged.
- PRECAUTION: Do Not use the device after the “Use By” date specified on the label.
- PRECAUTION: Visually inspect the Bard® E-LumineXX® Vascular Stent System to verify that the device has not been damaged due to shipping or improper storage. Do Not use damaged equipment.
- WARNING: The delivery system catheter is intended for stent deployment only and not for any other use.
- Flush the stent delivery system with sterile saline using a small volume (e.g., 5 – 10 cc) syringe. Attach the saline filled syringe to the two female Luer ports, the first of which is located at the proximal end of the device (E) and the second of which is found within the T-Luer adapter (F). Continue flushing until saline drips from the distal tip of the catheter (D) after flushing each Luer port.
• **PRECAUTION:** During system flushing, **DO NOT** use the system if fluid is not observed exiting the catheter at the distal tip (D) after each Luer port is flushed.

• During delivery system preparation, ensure that the red safety clip remains in place until the stent is ready to be deployed.

• **WARNING:** If the red safety clip has been removed or has become inadvertently detached from the grip **DO NOT** use the device.

### 11.5 Selection of Deployment Method:

- Determine whether you will use the PERFORMAXX® Grip for stent deployment. (See instructions for “Stent Deployment with the PERFORMAXX® Grip”, Section 11.8.)
- If selecting “The Conventional Method” of stent deployment, this option must be selected at the beginning of the procedure. (See instructions for “The Conventional Method”, Section 11.9.)
- **PRECAUTION:** If the PERFORMAXX® Grip is removed from the stent delivery system, it **MUST NOT** be reattached. In this event, the stent **MUST** be deployed using “The Conventional Method” of deployment.
- A removable red Safety Clip (K) prevents accidental or premature stent release.
- **PRECAUTION: DO NOT** remove the Safety Clip (K) until you are ready to deploy the stent.
- Just prior to deploying the stent, the Safety Clip (K) must be removed by pressing the two red tabs (L) together and removing the clip from the grip. (See Figure A2)

### 11.6 Introduction of the Stent Delivery System:

- Insert the guidewire into the distal tip of the catheter until it exits the catheter at the proximal end of the device.
- Advance the delivery catheter over the guidewire into the target lumen. (See Figure A5, A6, A7 and A8)
- Under fluoroscopic visualization, advance the stent delivery system across the stricture using the radiopaque markers to center the stent across the lesion. (See Figure A1)
- It is recommended to advance the delivery system past the stricture and then to pull back slightly on the entire system to achieve the correct positioning of the markers and to help insure that slack has been removed and that the delivery catheter is straight.
- **PRECAUTION:** Prior to stent deployment, remove all slack from the catheter delivery system to avoid stent misplacement.
- **PRECAUTION: DO NOT** hold the delivery system catheter during stent deployment. (See Figure A3/A4)

### 11.7 Stent Placement:

- During stent deployment, the entire length of the catheter system should be kept as straight as possible. Maintaining a straight catheter under slight tension during stent deployment is recommended to improve placement accuracy.
- Center the proximal stent markers (See Figure A1, “B2”) and both overlapping distal markers (See Figure A1, stent markers “B1” and marker band on the outer catheter “C”) across the stricture. The radiopaque markers on the stent indicate the ends of the compressed stent and the length of the expanded stent.
- By initially advancing the catheter beyond the stricture, micro-adjustments of the stent can be made by pulling the entire system back toward the stricture to improve placement accuracy.
- **WARNING:** Once the stent is partially or fully deployed, micro-adjustments are no longer possible and the stent should **NOT** be dragged or repositioned in the lumen.
- **WARNING:** Once stent deployment has been initiated, the stent **CANNOT** be recaptured using the stent delivery system.
• Once the moving marker has passed the proximal end of the stent by approximately 2 cm, the stent is completely deployed.
• Complete stent deployment can be fluoroscopically visualized when the radiopaque markers at the proximal and distal ends of the stent are fully expanded.

11.8 Stent Deployment With the PerforMAXX® Grip:

• There are three different stent deployment options with the PerforMAXX® Grip:
  – “The Trigger Method” (See Section 3.3, Figure 1)
  – “The Slide Method” (See Section 3.3, Figure 2)
  – “The Combination Method (Trigger/Slide)”
• Switching from “The Trigger Method” to “The Slide Method” can be done at any time during stent deployment; however, switching from “The Slide Method” to “The Trigger Method” MUST be avoided.
• PRECAUTION: DO NOT remove the Safety Clip (K) until you are ready to deploy the stent.
• Just prior to stent deployment, remove the red Safety Clip (K) by pressing the two red tabs (L) together and removing the clip from the grip. (See Figure A2)
• Under fluoroscopic visualization, deploy the stent utilizing your chosen method of deployment until the stent is fully deployed and the slide mechanism has reached the proximal end of the handle. (See Figure A9 – A11)
• During stent deployment (See Figure A12), the moving radiopaque marker (C) on the outer catheter moves backwards toward the proximal markers on the stent (B2). The radiopaque markers on the stent (B1, B2) MUST NOT move during stent deployment.
• After stent deployment, carefully withdraw the delivery system from the patient over the guidewire. After removing the delivery system, visually confirm that the entire stent delivery system has been removed. (See Figure A13)
  (a) inner catheter
  (b) outer catheter
  (c) moving distal marker (C) on outer catheter
• Final radiological evaluation of the implanted stent should be conducted by angiogram.

11.9 Stent Deployment Using The Conventional Method:

• In addition to the three deployment options outlined in Section 11.8 there is also an option to release the stent WITHOUT the PerforMAXX® Grip:
  – “The Conventional Method” (See Section 3.3, Figure 3)
• To allow “The Conventional Method” of deployment, remove the white conversion tab (M) from the back of the grip. (See Figure A14)
• Separate the PerforMAXX® Grip from the delivery system catheter by grasping the Luer lock (E) at the back end of the handle and gently twisting to snap the catheter out of the back of the grip. (See Figure A15) Then grasp the deployment system at the front T-Luer adapter (F) and snap the deployment system completely out of the grip. (See Figure A16) Use caution not to bend the metal portion of the catheter during removal from the grip.
• PRECAUTION: DO NOT remove the Safety Clip (K) until you are ready to deploy the stent.
• Just prior to stent deployment, remove the red Safety Clip (K) by pressing the two red tabs (L) together and removing the clip from the grip. (See Figure A17)
• Under fluoroscopic visualization, deploy the stent using the conventional “pin & pull-back” technique by slowly pulling back the T-Luer adapter (F) towards the hand that is pinned in place. Pulling back on the T-Luer adapter (F) directly retracts the outer catheter and deploys a corresponding portion of the stent. (See Figure A18)
• Full stent deployment is ensured when the T-Luer adapter (F) reaches the metal handle. (See Figure A19)
• During stent deployment (See Figure A12), the moving radiopaque marker (C) on the outer catheter moves backwards toward the proximal markers on the stent (B2). The radiopaque markers on the stent (B1, B2) MUST NOT move during stent deployment.

• After stent deployment, carefully withdraw the delivery system from the patient over the guidewire. After removing the delivery system, visually confirm that the entire stent delivery system has been removed. (See Figure A13)
  (a) inner catheter
  (b) outer catheter
  (c) moving distal marker (C) on outer catheter

• Final radiological evaluation of the implanted stent should be conducted by angiogram.

11.10 Post-Stent Placement:

• Post-dilatation of the stent with an appropriately sized balloon dilatation catheter is left to the discretion of the treating physician.

• WARNING: The Bard® E-Luminexx® Vascular Stent is a self-expanding, nitinol stent that MUST NOT be expanded beyond its labeled diameter by dilatation with a PTA balloon.

• PRECAUTION: This product has been designed for single patient use only. DO NOT reuse. DO NOT resterilize.

• PRECAUTION: After use, the stent delivery system is a potential biohazard. Handle and dispose of this product in accordance with accepted medical practice and with applicable local, state and federal laws and regulations.

12.0 Patient IMPLANT Information Cards:

• A Patient IMPLANT Information Card is provided in the back of the IFU for your convenience.

• The Patient IMPLANT Information Card should be carefully folded along the perforations and removed from the IFU after the completion of the procedure.

• The Patient Data, Implant Data, and Hospital Data should be carefully recorded on the card and given to the patient.

• Apply one of the peel-off stickers found in the IFU to the indicated area on the Patient IMPLANT Information Card. This peel-off sticker contains important information about the patient's stent implant.

• The patient should carry this card with them and provide to any medical personnel caring for the patient in the future.

13.0 MAGNETIC RESONANCE IMAGING (MRI) INFORMATION

Non-clinical testing has demonstrated the Bard® E-Luminexx® Vascular Stent is MR Conditional. It can be scanned safely, immediately after placement of this implant, under the following conditions:

• Static magnetic field of 3.0 Tesla or less
• Spatial gradient field of 720 Gauss/cm or less
• Normal operating mode of the MR system and use of whole body transmit coil.
• Maximum whole-body-averaged specific absorption rate (WB-SAR) of 2 W/kg for 15 min. of scanning for patient landmarks above the umbilicus.
• Maximum WB-SAR of 1 W/kg for 15 min. of scanning for patient landmarks below the umbilicus.
3.0 Tesla Temperature Rise

Non-clinical testing of RF-induced heating was performed at 128 MHz in a GE Signa HDx 3.0T MR system, software version 4\LX\MR. The testing was according to ASTM F2182 and the stents were in a location and orientation in the phantom that produced the worst case heating. RF power was applied for 15 minutes and the conductivity of the phantom material was about 0.5 S/m. The phantom average SAR calculated using calorimetry was 2.6 W/kg. For scans performed on landmarks above the umbilicus, the maximal temperature rise was 2.3°C when the local SAR was scaled to 2 W/kg for a stent length of 80 mm. The maximal temperature rise was 1.15°C when the local SAR was scaled to 1 W/kg for a stent length of 80 mm. Other stent lengths exhibited a lower rise.

Predicted in-vivo heating based on these non-clinical tests and computer simulation of the patient exposure to the electromagnetic fields in MRI yielded a maximal in-vivo rise of 5°C for the maximal SAR values specified above and a scan time of 15 minutes. The actual in-vivo rise is expected to be less as this calculation did not include the cooling due to blood flood in the lumen of the stent and blood perfusion in the tissue outside the stent.

1.5 Tesla Temperature Rise

Non-clinical testing of RF-induced heating was performed at 64 MHz in a GE Signa whole body coil. The testing was according to ASTM F2182 and the stents were in a location and orientation in the phantom that produced the worst case heating. RF power was applied for 15 minutes and the conductivity of the phantom material was about 0.5 S/m. The phantom average SAR calculated using calorimetry was 1.8 W/kg. For scans performed on landmarks above the umbilicus, the maximal temperature rise was 3.4°C when the local SAR was scaled to 2 W/kg for a stent length of 150 mm. The maximal temperature rise was 1.7°C when the local SAR was scaled to 1 W/kg for a stent length of 150 mm. Other stent lengths exhibited a lower rise.

Predicted in-vivo heating based on these non-clinical tests and computer simulation of the patient exposure to the electromagnetic fields in MRI yielded a maximal in-vivo rise of 6.1°C for the maximal SAR values specified above and a scan time of 15 minutes. The actual in-vivo rise is expected to be less as this calculation did not include the cooling due to blood flood in the lumen of the stent and blood perfusion in the tissue outside the stent.

Image Artifact

The image artifacts appear as localized signal loss and extend approximately 1.7 mm from the device in the parallel direction and 1.2 mm perpendicular to the stent's longitudinal axis, both inside and outside the stent lumen when scanned in non-clinical testing using a Gradient echo (GRE) pulse sequence with 100 msec repetition time, 15 msec echo time, 30 degrees flip angle, 256 X 256matrix size, 10 mm section thickness, 22 cm field of view, number of excitations: 2 and 16 kHz bandwidth, in a 3T Excite General Electric Healthcare (Milwaukee, WI), Software G3.0-052B, with whole body send/receive RF coil.

14.0 HOW SUPPLIED

The Bard® E-Luminexx® Vascular Stent is supplied sterile (by ethylene oxide gas) unless the package has been opened or damaged. This product has been designed for single patient use only.

DO NOT reuse. DO NOT resterilize. Store in a cool, dry, dark place.
Symbols used on labeling

- Consult instructions for use
- Keep away from sunlight
- Keep dry
- Do not use if package is damaged
- The Green Dot
- Recyclable
- Single use
- Do not resterilize
Symbols used on labeling

- Caution, consult accompanying documents
- MR Conditional
- Units
- Manufacturer
- Date of manufacture
- Sterilized using ethylene oxide
- Use by
- Catalogue number
Symbols used on labeling

- **LOT**
  - Lot number

- Guidewire Compatibility

- Deployment System

- Working Length

- Stent Length

- Stent Diameter
Carry this card with you. Prior to any treatment, please show it to all medical personnel caring for you.

Non-clinical testing has demonstrated the Bard E-Luminox® Vascular Stent is MR Conditional. It can be scanned safely, immediately after placement of this implant, under the following conditions:

- Static magnetic field of 3.0 Tesla or less
- Spatial gradient field of 720 Gauss/cm or less
- Normal operating mode of the MR system and use of whole body transmit coil.
- Maximum whole-body-averaged specific absorption rate (WB-SAR) of 2 W/kg for 15 min. of scanning for patient landmarks above the umbilicus.
- Maximum WB-SAR of 1 W/kg for 15 min. of scanning for patient landmarks below the umbilicus.

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76227 Karlsruhe
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TEL: 1-800-894-9515
Fax: 1-480-966-7062
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Patient Data:
Name: ________________________________
Date of implantation: __________________
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U.S. Patent Nos.:  
US 5,707,386  
US 5,716,393  
US 5,860,999  
US 6,053,941  
US 6,572,647  
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