

# MAGICTOUCH™

SIROLIMUS COATED BALLOON CATHETER

## Instructions for use - English

### 1.0 PRODUCT DESCRIPTION

The Magic Touch® Sirolimus Coated Balloon Catheter (Magic Touch®) is a device/drug combination product consisting of two components: a drug delivering device (balloon catheter) coated with a polymer free formulation containing Sirolimus drug as an active ingredient in a phospholipid excipient. It uses proprietary Nanolute® Coating technology.

### 1.1 DEVICE COMPONENT DESCRIPTION

The balloon catheter is a monorail (Rapid Exchange) double lumen catheter with a balloon located near the distal tip. The distal shaft comprises of two lumens, one is used for inflation of the balloon and the other permits the use of a guidewire (0.014" max.) to enable advancement of the catheter to and through the lesion to be dilated. A soft tip has been placed at the distal part for an atraumatic stenosis crossing.

In order to aid the balloon positioning under fluoroscopy, two radio-opaque markers are located proximal and distal for balloon length between 10.00 – 40.00 mm.

The balloon material provides an expandable segment of known diameter at specific pressure known as nominal pressure. The balloon catheter is covered with a hydrophilic coating. The proximal shaft is made up of mirror polished stainless steel hypotube. Proximal visual markers located at 90 cm and 100 cm from the distal tip to aid catheter progression for optimal length.

Table 1.1: Device Component Description

Brand Name	Magic Touch® Sirolimus coated Balloon Catheter
Available Lengths (mm)	10, 15, 20, 25, 30, 35, 40
Available Diameters (mm)	1.50, 2.00, 2.25, 2.50, 2.75, 3.00, 3.25, 3.50, 4.00
Drug Component	Sirolimus (also known as Rapamycin)
Delivery System Workable Length	140cm (1400mm)
Balloon Inflation Pressure	Nominal Inflation Pressure: 6bar Rated Burst Pressure: 16bar*

Guide wire compatibility	(max.)0.014"
Guiding Catheter Inner Diameter	5F (1.65mm) (inner lumen ≥0.058")
Catheter Shaft Outer Diameter	Proximal 1.8 F (0.59mm) / Distal 2.5F (0.825 mm)

\*Rated Burst Pressure (14 bar for 4.00/25 to 40 mm)  
Note: Do not exceed Rated Burst Pressure (RBP)

### 1.2 DRUG COMPONENT DESCRIPTION

**Active Pharmaceutical Ingredient (API):** Sirolimus is a macrocyclic lactone produced by *Streptomyces hygroscopicus*.

**Sirolimus appearance:** White to off-white powder.

**Sirolimus solubility:** Freely soluble in chloroform, acetone and acetonitrile and insoluble in water

**Sirolimus Molecular formula:** C<sub>51</sub>H<sub>79</sub>NO<sub>13</sub>

**Molecular weight:** 914.2g/mol

**CAS Registry no.:** 53123-88-9

**Chemical name:** (3S, 6R, 7E, 9R, 10R, 12R, 14S, 15E, 17E, 19E, 21S, 23S, 26R, 27R, 34aS)-9, 10, 12, 13, 14, 21, 22, 23, 24, 25, 26, 27, 32, 33, 34, 34a - hexadecahydro-9, 27 - dihydroxy - 3 - [(1R) - 2 - [(1S, 3R, 4R) - 4 - hydroxy - 3 - methoxycyclohexyl] - 1 - methylethyl] - 10, 21 - dimethoxy - 6, 8, 12, 14, 20, 26 - hexamethyl - 23, 27 - epoxy - 3H - pyridol[2, 1 - c][1, 4]oxaazacyclohentriacontine - 1, 5, 11, 28, 29 (4H, 6H, 31H) - pentone.

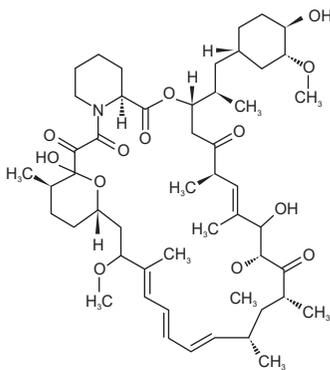


Figure 2: Structural Formula of Sirolimus

Magic Touch® is a Sirolimus coated balloon catheter with application of Nanolute® technology. Nanolute® technology is a nanometer sized carrier based drug delivery technology which is a polymer free system and uses excipient in drug delivery. The excipient based drug delivery formulation is customized system which can create different matrix with programmable and configurable delivery times. The drug to be delivered is converted to nano meter size (Avg. 300 nm) and this conversion of drug helps in increasing the tissue uptake and reducing the washout rate from delivery. The smaller sized carriers can effectively diffuse into inner most part of tissues. Size dependent characteristics become more profound in materials and size helps to overcome different diffusion barriers in the tissue walls. The Nanolute® technology employs a wide range of nano carrier sizes to have different levels of penetration in arterial wall. The smallest size nano carriers can readily penetrate the vessel wall upon inflation of the drug coated balloon catheter. Nominal dosages of Sirolimus on Magic Touch® Sirolimus coated balloon ranges from 59 to 639 microgram as per the combination of diameters and lengths

**Table 1.2:**  
**Product Sizes, Reference and Drug Content**

Product Reference	Balloon Diameter (mm)	Balloon Length (mm)	Drug Content (µg)
CMT15010	1.50	10	59.82
CMT20010	2.00	10	79.76
CMT22510	2.25	10	89.73
CMT25010	2.50	10	99.70
CMT27510	2.75	10	109.66
CMT30010	3.00	10	119.63
CMT32510	3.25	10	129.60
CMT35010	3.50	10	139.57
CMT40010	4.00	10	159.51
CMT15015	1.50	15	89.73
CMT20015	2.00	15	119.63
CMT22515	2.25	15	134.59
CMT25015	2.50	15	149.54
CMT27515	2.75	15	164.50
CMT30015	3.00	15	179.45
CMT32515	3.25	15	194.41
CMT35015	3.50	15	209.36
CMT40015	4.00	15	239.27
CMT15020	1.50	20	119.63
CMT20020	2.00	20	159.51
CMT22520	2.25	20	179.45
CMT25020	2.50	20	199.39
CMT27520	2.75	20	219.33

Product Reference	Balloon Diameter (mm)	Balloon Length (mm)	Drug Content (µg)
CMT30020	3.00	20	239.27
CMT32520	3.25	20	259.21
CMT35020	3.50	20	279.15
CMT40020	4.00	20	319.02
CMT15025	1.50	25	149.54
CMT20025	2.00	25	199.39
CMT22525	2.25	25	224.31
CMT25025	2.50	25	249.24
CMT27525	2.75	25	274.16
CMT30025	3.00	25	299.09
CMT32525	3.25	25	324.01
CMT35025	3.50	25	348.93
CMT40025	4.00	25	398.78
CMT15030	1.50	30	179.45
CMT20030	2.00	30	239.27
CMT22530	2.25	30	269.18
CMT25030	2.50	30	299.09
CMT27530	2.75	30	328.99
CMT30030	3.00	30	358.90
CMT32530	3.25	30	388.81
CMT35030	3.50	30	418.72
CMT40030	4.00	30	478.54
CMT15035	1.50	35	209.36
CMT20035	2.00	35	279.15
CMT22535	2.25	35	314.04
CMT25035	2.50	35	348.93
CMT27535	2.75	35	383.83
CMT30035	3.00	35	418.72
CMT32535	3.25	35	453.61
CMT35035	3.50	35	488.51
CMT40035	4.00	35	558.29
CMT15040	1.50	40	239.27
CMT20040	2.00	40	319.02
CMT22540	2.25	40	358.90
CMT25040	2.50	40	398.78
CMT27540	2.75	40	438.66
CMT30040	3.00	40	478.54
CMT32540	3.25	40	518.41
CMT35040	3.50	40	558.29
CMT40040	4.00	40	638.05

## 2.0 INDICATIONS

The Magic Touch® Sirolimus coated balloon is indicated to dilate the diseased segment(s) and deliver drug in a coronary artery to improve myocardial perfusion with lesion lengths ranging from 8 to 38 mm and diameters ranging from 1.50 mm to 4.00 mm. Usage of one Magic Touch® is recommended, beyond 38 mm length there

should be use of two Magic Touch® devices in summation of the lesion.

The device is intended for use in following conditions:

- Patients with In-stent restenosis of previous stent implantation
- Patients with disease in small vessels where Drug eluting stent implantation is either not feasible or involving higher risk of restenosis
- Patients with bifurcation lesions, where side branch treatment increases risks of dissection and a balloon dilation treatment is more advised.
- Stenotic portions also including total occlusions, it can be used also for the post dilatation of stents

### 3.0 CONTRAINDICATIONS

Use of Magic Touch® Sirolimus coated balloon is contraindicated in the following types of patients:

- Patients with a hypersensitivity to Sirolimus drug or its structural activity related compounds.
- Patients with a known hypersensitivity to excipients with phospholipid or related origins.
- Patients whose diseased segment cannot be pre-dilated or prepared before drug coated balloon treatment.
- Severely calcified lesions requiring treatment of other type for e.g. Rotational Atherectomy (Rotablator)
- Patients judged to have lesion that prevents complete inflation of angioplasty balloon or proper placement of delivery catheter
- Patients who cannot receive recommended antiplatelet or anticoagulation therapy.

### 4.0 WARNINGS

- Ensure that the product package is intact and the inner package housing device has not been opened or damaged as this may indicate the sterile barrier has been broken.
- Do not use the product if sterile barrier is opened or opened prior to intended use.
- Inspect the product before use for any damage during removal from the protective catheter holder and protective cap. Return to company using proper handling precautions if found to be damaged for further inspection and analysis.
- The use of product carries the risks associated with coronary artery

interventions, including sub thrombosis, vascular complications or bleeding events.

- Patients with known hypersensitivity to Sirolimus drug and excipient (Phospholipids) may suffer an allergic response to this device.
- Patients who are unlikely to comply with the recommended Antiplatelet therapy should not receive this product.
- The product shall be discarded in a proper way after use as it may have residual drug (Sirolimus) on its surface.
- This product is single use only. Do not resterilize, reuse in another patient. Reuse or re-sterilization may create a risk of contamination of the device and/or cause patient Infection or cross-infection.
- In case of procedures where the patient requires a stent implantation, the stenting must be done prior to Sirolimus coated balloon device treatment at the target lesion.
- Do not exceed rated burst pressure (RBP).

### 5.0 PRECAUTIONS FOR USE

#### 5.1 GENERAL PRECAUTIONS:

- Only physicians who have received adequate training in Interventional cardiology shall perform this treatment.
- The treatment shall be performed at hospitals where emergency coronary bypass graft surgery can be readily performed.
- Do not expose system to organic solvents such as alcohol, saline and detergents as it may impair with product performance in treatment.
- Preparation of the lesion i.e. pre-dilatation of the lesion before the treatment with Sirolimus coated balloon is mandatory.
- In case of procedures where the patient requires a stent implantation, the Stenting must be done prior to Sirolimus coated balloon device treatment at the target lesion. The use of drug coated balloons for treatment of coronary artery disease conditions is a relatively new concept and studies have been performed to evaluate results in In-stent restenosis, small vessels and de novo lesions with data comparable with use of stents. However where the product is used outside the specific indications, the outcomes may differ from the previously documented studies with drug coated balloons.

Using drug coated balloon treatment in patients and lesions outside labelled indications may have an increased risk of adverse events, including thrombosis, embolization, dissection, myocardial infarction or death.

## **5.2 PRE AND POST PROCEDURE PRECAUTIONS:**

- The recommended practice is Clopidogrel or Ticlopidine administered pre-procedure and for a period of minimum 3 months with aspirin indefinitely with extension of Clopidogrel therapy to 12 months in case of patients with low risk of bleeding. (Ref: ACC/AHA/SCAI Practice guidelines). The use of Aspirin concomitantly with Clopidogrel or Ticlopidine is referred as "Dual antiplatelet therapy". As the product has active pharmaceutical ingredient (Sirolimus) which is found in drug eluting stents, it is very important that the patient is compliant with the post-procedural dual antiplatelet drug recommendation. Early discontinuation of prescribed medication could result in higher risks of thrombosis, myocardial infarction or death.
- Prior to Percutaneous Coronary Intervention (PCI), if a dental or surgical procedure is anticipated that requires early discontinuation of antiplatelet therapy, the interventional cardiologist and patient should carefully consider whether a drug coated balloon and its associated recommended antiplatelet therapy is the appropriate PCI treatment choice.
- The Optimal duration of dual antiplatelet therapy, specifically Clopidogrel is unknown and thrombosis may still occur despite continued therapy. It is recommended for duration of minimum 3 months and up to 12 months in case of patients with low risk of bleeding.

## **5.3 MULTIPLE INFLATION OF DEVICE**

- Multiple inflation of a Magic Touch® Sirolimus coated balloon has not been evaluated in humans.
- It is recommended that treatment using single inflation of device with 60 second at nominal pressure or two inflations of 30 - 30 seconds duration is suggested at nominal pressure without removing the balloon catheter during the procedure.

## **5.4 BRACHYTHERAPY**

The safety and effectiveness of Magic Touch® Sirolimus Coated Balloon in patients

with previous brachytherapy has not been established. Vascular brachytherapy is being studied for treatment of in-stent restenosis in stents; however there is no specific evidence of safety and efficacy of treatment. Magic Touch® Sirolimus Coated Balloon and vascular brachytherapy alters the arterial biology and combined vascular response of these two therapies have not been established.

## **5.5 USE IN CONJUNCTION WITH OTHER PROCEDURES**

The safety and effectiveness of using mechanical atherectomy devices (rotational atherectomy catheters, directional atherectomy catheters) or laser angioplasty catheters in conjunction with Magic Touch® Sirolimus coated balloon treatment has not been established.

## **5.6 USE IN SPECIAL POPULATIONS**

- **PREGNANCY:** There are no adequate or controlled studies in pregnant women or men intending to father children. Effective contraception should be initiated before Magic Touch® Sirolimus coated balloon treatment and for duration of 12 weeks after implantation. The treatment should be used during Pregnancy only if the potential benefits outweigh the potential risks to embryo or foetus.
- **LACTATION:** The treatment should only be done after careful evaluation with decision whether to discontinue nursing or to undergo treatment with Magic Touch® Sirolimus coated balloon, taking into account the importance of treatment to mother.
- **GENDER:** Treatment done using various Sirolimus eluting Balloon in different genders have not been evaluated in human.
- **PEDIATRIC USE:** The safety and efficacy of Magic Touch® Sirolimus coated balloon in paediatric patients below 18 years has not been established yet.
- **NON CORONARY USE:** The safety and effectiveness of Magic Touch® Sirolimus coated balloon has not been established in cerebral, carotid or peripheral vasculature.

## **5.7 DRUG INTERACTION**

Several drugs are known to affect metabolism of Sirolimus, and other drug interactions may be inferred from known metabolic effects. Sirolimus is known to be a substrate for both cytochrome P450 IIIA4

(CYP3A4) and P-glycoprotein as per published papers. Consideration should be given to the potential drug interaction when deciding for Magic Touch® Sirolimus coated balloon treatment in a patient who is taking a drug that could interact with Sirolimus. The effect of drug interactions on safety and effectiveness of Magic Touch® Sirolimus coated balloon has not been determined.

## 5.8 IMMUNE SUPPRESSION POTENTIAL

Sirolimus, the active ingredient of Magic Touch® Sirolimus coated balloon, is an immunosuppressive agent that is also available in oral formulations. The total drug concentration in blood from two inflations of Magic Touch® Sirolimus coated balloon at 24 hours was found to be 0.81ng/ml and is substantially lower than the therapeutic concentrations obtained when Sirolimus oral formulations are used as prophylaxis for renal transplant rejection (Pharmacokinetic and Histology study done at CV Path Institute, Washington DC USA Lemos et al, *Eurointervention*;9(1), 148-156, 2013).

However, when multiple Magic Touch® Sirolimus coated balloon treatment is performed in patients, systemic concentration of Sirolimus may reach immunosuppressive levels momentarily, especially in patients who also have hepatic insufficiency or who are taking drugs that inhibit CYP3A4 or P-glycoprotein. This possibility should be considered for such patients, particularly if they are also taking oral Sirolimus, other immunosuppressive drugs or are otherwise at risk of immunosuppression.

## 5.09 HANDLING PRECAUTIONS

- For single use only. Do not re-sterilize or reuse the product. Note "Expiry Date" on the product label before use.
- Special care must be taken not to handle or in any way disrupt the coating on balloon. This is most important while removing the catheter from the packaging, placing it over the guide wire and advancing it through large bore rotating haemostatic valve and guiding catheter hub.
- Balloon manipulation, trying to re-fold may damage the coating, contamination or fragmentation of coating on the balloon. Use only appropriate balloon catheter inflation media. Do not use air or any gaseous medium to inflate the balloon as this may cause uneven expansion and difficulty in deployment in lesion.

## 5.10 MAGIC TOUCH® SIROLIMUS COATED BALLOON INFLATION PRECAUTIONS

- The vessel shall be pre-dilated with an appropriate sized balloon.
- Do not prepare or pre-inflate the balloon prior to treatment other than as directed. Use the balloon purging technique.
- Guiding catheters should have lumen sizes that are suitable to accommodate the balloon across the lesion. Wrong sizing may lead to damage of balloon coating.
- Inflating the balloon above its Rated burst pressure (RBP) may cause rupture in the target lesion, and may lead to procedure requiring surgical treatment. Always maintain inflation pressure below the RBP.
- Inflating a balloon in a tight lesion may lead to dissection of the vessel distal/proximal to the lesion and may cause acute closure of the vessel leading to additional intervention (CABG, further dilatation, placement of additional stents or other intervention).
- Do not expand the balloon if it is not properly positioned at the target lesion.
- Expansion of balloon has a potential to compromise side branch flow, hence caution needs to be taken when inflation is done.
- When treating multiple lesions, the distal lesion should be stented initially if required, followed by Magic Touch® treatment. This can be followed by proximal lesion treatment. Procedure in this order reduces the chances of disrupting the coating surface of balloon catheter.
- Inflation pressure of balloon should be monitored at all times. Do not exceed Rated burst pressure as listed in the compliance chart on label. Use of pressures higher than those specified on the product label may result in ruptured balloon with possible intima damage and dissection.
- Do not attempt to pull a partially inflated or inflated balloon back through the guiding catheter, as serious injury to intima layer may occur. Remove the device after complete deflation through the catheter. Use proper retrieval methods for the device as it may cause trauma at the insertion site and may lead to bleeding, haematoma or pseudo aneurysm.
- Ensure treatment device length more than or equal to lesion length with addition of 2 mm on proximal and distal end for complete coverage.

### 5.11 MAGIC TOUCH® SIROLIMUS COATED BALLOON REMOVAL PRECAUTIONS

- Should any unusual resistance be felt at any time during either lesion access or removal of the balloon, the entire system should be removed.
- While removing the system, advance the guidewire into the coronary anatomy as far as distally possible. Tighten the rotating haemostasis valve to secure the Magic Touch® Sirolimus coated balloon with the guiding catheter; then removing the Balloon catheter system and guiding catheter as a single unit.
- Failure to follow this procedure or to apply excessive force during withdrawal can potentially result in damage to the anatomy and cause any other vascular complication.
- If it is necessary, retain the guidewire in position for subsequent artery / lesion access, leave the guide wire in place and remove all other system components.

### 5.12 POST PROCEDURE PRECAUTIONS

- Care must be taken when the Magic Touch® Sirolimus coated balloon is being withdrawn after treatment. Post procedure treatment of Dual antiplatelet therapy (DAPT) is recommended for a period of minimum 3 months. Aspirin to be administered concomitantly with Clopidogrel or Ticlopidine and then continued indefinitely to reduce the risk of thrombosis. Patients who require early discontinuation of antiplatelet therapy (e.g. secondary to active bleeding) should be monitored carefully for cardiac events.
- At the discretion of Patient's treating physician, the antiplatelet therapy should be restarted as soon as possible.

## 6.0 DRUG INFORMATION

### 6.1 MECHANISM OF ACTION

The mechanism by which Magic Touch® Sirolimus coated balloon affects neo-intimal growth and arterial characteristics as observed in pre-clinical studies has not been established. Sirolimus is a potent inhibitor of T-Lymphocyte activation, Smooth Muscle Cell and Endothelial cell proliferation in response to stimulation by cytokines, growth factors and antigens. In cells, Sirolimus binds to the immunophilin, FK Binding

protein-12 (FKBP-12). Sirolimus- FKBP-12 complex binds to and inhibits the activation of the Mammalian Target of Rapamycin (mTOR), a key regulatory kinase. This inhibition suppresses cytokine-driven cell proliferation, inhibiting the progress of the cell cycle from the G<sub>1</sub> to S phase.

### 6.2 PHARMACOKINETIC OF MAGIC TOUCH® SIROLIMUS COATED BALLOON

- Evaluation of pharmacokinetics (PK) of Sirolimus drug as delivered by the Magic Touch® Sirolimus coated balloon, was evaluated after single inflation in bilateral iliac artery of 9 rabbits. Pharmacokinetic and histology evaluation was done at different time points. Scheduled euthanization of animals was done at 1, 8 and 14 days.
- The pharmacokinetic results for Magic Touch® Sirolimus coated balloon are described in figure 2a and figure 2b.

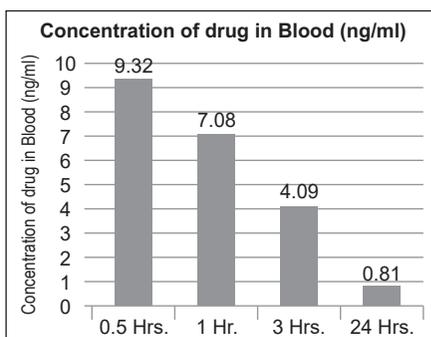


Figure 2a. Sirolimus concentration in blood

- In 1, 8 and 14 day pharmacokinetics study, maximal blood concentrations of Sirolimus was seen at 30 minutes post catheterization (9.3 ng/ml) while circulating levels decreased markedly by 24 hours (0.81 ng/ml).
- Sections of treated vessels were also analysed for evaluation of local drug concentration levels in tissue. The samples were taken at 1, 8 and 14 day time points.

Table-2b: Summary of Sirolimus in Tissue:

Time (days)	1	8	14
Concentration of drug in blood (ng/ml)	140.6	15.5	5.5

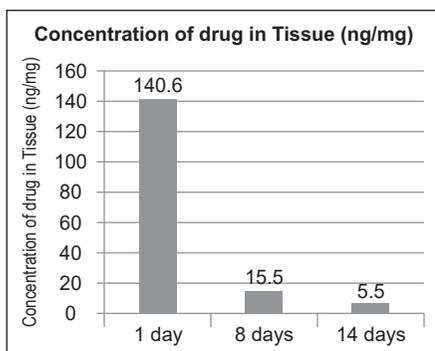


Figure 2b. Sirolimus concentration in tissue

For tissue drug levels, maximum concentrations were achieved at 1 day 140.4 ng/mg which showed a significant decrease at 8 days to 15.5 ng/mg and 5.5 ng/mg by 14 days.

The PK Parameters representing elimination,  $T_{1/2}$  (terminal phase half-life), AUC 0-t, AUC last, AUC  $\infty$  (AUC=area beneath the blood concentration vs. Time Curve) and CL (Total Blood Clearance) could not be determined accurately due to rapid Sirolimus disappearance from blood.

Sirolimus disappearance from circulation following Magic Touch<sup>®</sup> implantation further limits systemic exposure. Despite limited systemic exposure to Sirolimus, local arterial delivery has been demonstrated in pre-clinical studies.

### 6.3. DRUG INTERACTION FOLLOWING TREATMENT OF MAGIC TOUCH<sup>®</sup> DRUG COATED BALLOON

Drug interaction studies have not been performed with Magic Touch<sup>®</sup> Sirolimus Coated Balloon Catheter because of limited systemic exposure to Sirolimus eluted from Magic Touch<sup>®</sup> Balloon. However, consideration should be given to the potential for both local and systemic drug interactions in the vessel wall when deciding to implant Magic Touch<sup>®</sup> Sirolimus Coated Balloon Catheter in a subject taking a drug with the known interaction with Sirolimus.

Sirolimus is metabolized by cytochrome P450 3A4 (CYP3A4) in the gut wall and liver and undergoes efflux from enterocytes of the small intestine by p-glycoprotein (P-gp). Absorption and subsequent elimination of systemically absorbed Sirolimus may be influenced by drugs that affect CYP3A4 and P-gp.

Medications that are strong inhibitors of CYP3A4 and P-gp may increase Sirolimus

levels while inducers of CYP3A4 and P-gp may reduce Sirolimus metabolism in-vivo.

Sirolimus when prescribed as oral medication may interact with the drugs/foods listed below:

- P-gp Inhibitors such as but not limited to Cyclosporine, Digoxine
- Antibiotics such as but not limited to Ciprofloxacin, Ofloxacin
- Glucocorticoids
- CYP3A4 Inhibitors such as but not limited to Ketoconazole, Fluconazole
- CYP3A4 Inducers such as but not limited to Rifampin, Phenytoin, Dexamethasone
- Herbal preparations (St. John's wort-Hypericum perforatum)
- Amphotericin B such as but not limited to Abelcet, Amphocin
- Cimetidine such as but not limited to Tagamet
- vitamins
- Vaccination- sirolimus is potent immunosuppressant hence it may affect response to vaccination making the vaccination less effective. For some period after receiving Magic Touch<sup>®</sup>, Sirolimus Coated Balloon Catheter use of live vaccines such as, but not limited to measles, mumps, BCG, yellow fever, varicella, Ty21a Typhoid should be avoided.
- Grapefruit/grapefruit juice: Grapefruit/grapefruit juice reduces CYP3A4 mediated metabolism of sirolimus.
- Medicine to lower your cholesterol or triglycerides
- Medicine for high blood pressure or heart problems
- Anti-seizure medicine
- Medicines used to treat stomach acid, ulcers, or other gastrointestinal problems
- Drugs that may increase sirolimus blood concentration:
  - Antifungal agents: such as but not limited to Itraconazole, Cotrimazole
  - Gastrointestinal prokinetic agents such as but not limited to metoclopramide
  - Macrolide antibiotics: such as but not limited to Troleandomycin
  - Calcium channel blockers: such as but not limited to Diltiazem, verapamil
  - Other drugs: Danazole, HIV Protease Inhibitor (Indinavir)

- Drugs that may decrease sirolimus level:
  - Anticonvulsants such as but not limited to Phenobarbitol
  - Antibiotics such as but not limited to Rifabutin

#### **6.4. MUTAGENESIS, CARCINOGENICITY AND REPRODUCTIVE TOXICOLOGY**

- Mutagenesis, carcinogenicity and reproductive toxicity of Magic Touch® Sirolimus Coated Balloon Catheter have not been evaluated.
- Genotoxicity test was not performed for Magic Touch® Sirolimus Coated Balloon Catheter in accordance with its limited exposure time to elicit any genotoxic / mutagenic effect. Also Magic Touch® Sirolimus Coated Balloon Catheter does not contain any compound that may interact directly with the genetic material and the materials used for manufacturing of Magic Touch® Sirolimus Coated Balloon Catheter are well characterized.
- Carcinogenicity testing was not performed for Magic Touch® Sirolimus Balloon Catheter because it is not a permanent implant neither it contains any bio-resorbable materials.
- Reproductive toxicity was not performed for Magic Touch® Sirolimus Coated Balloon Catheter in accordance with its limited exposure and also these tests are recommended for materials that permanently contact the reproductive organs. There is adequate and reassuring scientific data available for Sirolimus, including history of safe clinical use pertaining to mutagenicity, carcinogenicity and reproductive toxicity for Sirolimus already exists.

#### **7.0 POTENTIAL ADVERSE EVENTS**

Possible complications linked to the use of the balloon catheter during the procedure:

- Dissection or perforation of the coronary artery
- Injury or rupture of the coronary artery
- Total occlusion
- Thrombosis
- Arterial spasm
- Ventricular fibrillation
- Disturbance of cardiac conductivity
- Embolism

- Infection and or pain at the access site
- Haematoma
- Drug reaction to antiplatelet agent/anticoagulation agent/contrast medium
- Emboli, distal
- Nausea & vomiting
- Vascular complication which may requires vessel repair.
- Alopecia.
- Anaemia
- Blood product transfusion.
- Gastrointestinal Symptoms.
- Hepatic Enzyme Changes.
- Histological changes in vessel wall, including inflation, cellular damage or necrosis.
- Myalgia / Arthralgia
- Peripheral Neuropathy.
- These complications can directly result in the patient's death.
- Possible complications that could occur following an angioplasty procedure with balloon catheter, on short and medium term:
  - Restenosis of the dilated artery
  - Unstable angina
  - Acute myocardial infarction
  - Disturbance of cardiac conductivity
  - Bleeding complications or haematoma
- These complications can directly result in the patient's death.

#### **8.0 INDIVIDUALIZATION OF TREATMENT**

- Selection of patients for Magic Touch® Sirolimus drug coated balloon treatment should be carefully done looking at the risks and benefits to the patient. Stent is generally avoided in patients with high risk of bleeding and Magic Touch® may provide an alternative treatment strategy in such cases.
- Premorbid conditions that increase the risk of a poor initial result and the risks of emergency referral for bypass surgery (diabetes mellitus, renal failure, and severe obesity) should be reviewed. Multi variable patient conditions and outcomes modeling suggest that treatment assignment/strategy remained an independent predictor of clinical and angiographic outcomes even after adjusting for other baseline and procedural confounding variables.

## 9.0 PATIENT COUNSELING INFORMATION

Physicians should consider the following in counseling patient about this product:

- Discuss the risks associated with Magic Touch® balloon dilation treatment
- Discuss the risks associated with a Sirolimus-coated treatment
- Discuss the risks/benefits issues for this particular patient
- Discuss alteration to current lifestyle immediately following the procedure and over the long term.

## 10.0 HOW SUPPLIED

- **STERILE:** This device is sterilized with ethylene oxide gas and is non-pyrogenic. Do not use if the package is opened or damaged. Device is for one use only (single use). Do not re-sterilize.
- **CONTENTS:** One (1) Magic Touch® Sirolimus coated balloon catheter (Rapid exchange delivery system).
- **STORAGE:** Temperature limitation: 8 to 25°C, store at dry place. Keep away from direct sunlight.

## 11.0 OPERATOR'S MANUAL FOR USE

Magic Touch® Sirolimus drug coated balloon is supplied and packaged in sterile condition. The product is packed in a box with identification labels on each packing. There are two stages of packing for maintaining the integrity and sterility of device - first pack is a Tyvek pouch which is sealed and stored in a secondary laminated aluminium foil pouch for protection. It is important that integrity of packing is verified before usage of device.

### 11.1 ACCESS TO STERILE PACK

Open the product box pack at tear line provided at the top. This provides access to the secondary aluminium foil pouch in which the sterile package is kept. Tear open the laminated aluminium foil pouch at the cut provided on the side. The inner most Tyvek pouch holds sterile Magic Touch® Sirolimus drug coated balloon catheter. The Magic Touch® balloon is stored in a coiled hoop. Open the Tyvek pouch and pass or drop the sterile balloon catheter into the sterile field using aseptic technique.

### 11.2 INSPECTION PRIOR TO USE

Before opening, carefully inspect the balloon system package, and check for damage to sterile barrier. Prior to using the

device, carefully remove the system from package and inspect it for any bends, kinks or other damage. Do not use the device if any damage to the sterile package or balloon system is noted.

## 11.3 MATERIAL REQUIRED

### Quantity Material

N/A	Appropriate guiding catheter(s)
2-3	10-20 cc syringes
1,000 u/ 500 cc	Sterile Heparinized Normal Saline (HepNS)
1	0.014" (0.36 mm) diameter guidewire
1	Rotating haemostatic valve with an appropriate internal diameter (min. I.D. of 0.096" [2.4 mm])
N/A	Contrast diluted 1:1 with normal saline
1	Inflation device
1	Stopcock (3-way minimum)
1	Torque device
1	Guidewire Introducer
N/A	Appropriate anticoagulation and anti-platelet drugs

## 11.4 PREPARATION OF MAGIC TOUCH® SIROLIMUS COATED BALLOON CATHETER

### PRECAUTION

AVOID any manipulation of the drug coated balloon catheter during preparation as this may disrupt the integrity of coating on the device.

DO NOT wipe the distal part having balloon using any media as it may damage the coating.

ANY advancement of the drug coated balloon catheter should be in deflated condition and with use of guidewire in the coronary artery.

### MAGIC TOUCH® BALLOON CATHETER SYSTEM PREPARATION

#### Steps

1. Prepare the inflation device with diluted contrast medium.
2. Attach the inflation device to the 3 way stopcock.
3. Attach stopcock to the balloon inflation hub.
4. Open the stopcock to balloon catheter system and leave inflation device system on neutral position.

## **11.5 MAGIC TOUCH® DRUG COATED BALLOON DELIVERY PROCEDURE**

### Steps

1. Prepare the vascular access site according to standard practice. Required access to the lesion has to be done using an appropriate guide wire (recommended 0.014").
2. Pre-dilate the lesion with a PTCA balloon catheter. Limit the longitudinal length of pre-dilatation by the PTCA balloon to avoid creating a region of vessel injury that is outside the boundaries of the MAGIC TOUCH® Balloon.
3. Maintain neutral pressure on the inflation device. Open the rotating haemostatic valve as widely as possible.
4. Backload the delivery system onto the proximal portion of the guidewire while maintaining the guidewire position across the target lesion.
5. Advance the drug coated balloon over the guidewire to the target lesion. Use the radiopaque balloon markers to position the balloon across the lesion; perform check angiography shoot to confirm the position of the balloon. Close the rotating haemostatic valve at the right position of balloon catheter in lesion to lock it in place.

Note: Should unusual resistance be felt at any time during either lesion access or removal of the drug coated balloon before inflation, the entire system should be removed as a single unit. See Precautions – 5.12

Removal precautions for removing balloon catheter system.

## **11.6 MAGIC TOUCH® DRUG COATED BALLOON DEPLOYMENT PROCEDURE**

### Steps

1. Before deployment, reconfirm the correct position of the drug coated balloon relative to the target lesion via the radiopaque balloon markers.
2. Attach the inflation device (only partially filled with contrast media) to a three-way stopcock and apply negative pressure to purge the balloon of air.
3. Turn the stopcock on the catheter to the

off position and purge the inflation device of air. Close the side port of the stopcock.

4. Under fluoroscopic visualization, inflate the balloon to at least the nominal pressure to deliver drug from the balloon surface, but do not exceed the labelled rated burst pressure. Optimal treatment and drug delivery requires the balloon to be in full contact with the artery wall, with the internal diameter matching the size of the reference vessel diameter. Higher pressures may be required for certain lesions, but Rated burst pressure should not be exceeded at all times. Refer to balloon compliance chart for further details on diameters and sizes.
5. Fully cover the entire lesion and dilated balloon area (including dissections) with the Magic Touch® drug coated balloon, allowing for adequate coverage into healthy tissue proximal and distal to the lesion.
6. If more than one Magic Touch® drug coated balloon is needed to cover the lesion area, adequately overlap balloon treatment, taking into account overlapping of the first treated segment. Ensure no gap between Drugs coated balloon treatments by visual estimation and including overlap to account for any geographical miss.
7. Keep Magic Touch® Sirolimus drug coated balloon inflated for a minimum 60 seconds (single inflation) at nominal pressure or two inflations of 30 - 30 seconds at nominal pressure without removing the balloon catheter.
8. Deflate the balloon by pulling a vacuum with the inflation device. Make certain that the balloon is fully deflated before attempting to move the catheter.
9. Confirm that vessel dilation is adequately done by angiographic injection through the guiding catheter.
10. Further dilation of treatment area should only be done if a scaffolding support of stent is planned at the site. A larger balloon may be used if the required diameter of the vessel is not achieved.

NOTE: It is recommended that the guidewire and/or the balloon catheter remain across the lesion until the procedure is complete.

Contrast media have different viscosities and may affect the inflation/deflation time.

### **11.7 MAGIC TOUCH® DRUG COATED BALLOON REMOVAL PROCEDURE**

Steps

1. Ensure that the balloon is fully deflated.
2. While maintaining the guidewire position and negative pressure on the inflation device, withdraw the drug coated balloon delivery system.

Note: Should unusual resistance be felt at any time during either lesion access or removal of the drug coated balloon catheter before inflation, the entire system should be removed as a single unit. See Precautions – 5.12 Removal precautions for removing balloon catheter system.

3. Repeat angiography to assess the treatment area.

### **11.8 MAGIC TOUCH® DRUG COATED BALLOON COMPLIANCE CHART**

Refer to labelling.

### **12.0 STERILISATION AND STORAGE CONDITIONS**

Magic Touch® Sirolimus coated balloon has been sterilized using Ethylene Oxide gas (EtO) and is non-pyrogenic. The device is for single use only. Storage temperature limitation: 8 to 25° C. Store at dry place. Keep away from direct sunlight.

### **13.0 PATIENT INFORMATION**

In addition to these Instructions for Use booklet, the following patient specific information regarding the Magic Touch® Sirolimus Coated Balloon Catheter is available in product box:

A Patient Treatment Card includes specific information about Magic Touch® Sirolimus coated balloon (Product name, Size, Reference Number, Serial Number, LOT Number & Expiry Date) and contact details for patient and his treating physician. It is recommended that patients treated with Magic Touch® Sirolimus coated balloon catheter keep this card in their possession at all times and present it to their treating physician before going for any other treatment / surgical intervention.

### **14.0 DISCLAIMER OF WARRANTY AND LIMITATION OF REMEDY**

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