Prospective comparison between conventional transseptal puncture and transseptal needle puncture with radio frequency energy

INTRODUCTION

- This study compared the safety and efficacy of radiofrequency (RF) transseptal puncture to the conventional technique.

RESULTS

- The average time for the RF transseptal puncture was 4.8 minutes compared to 7.5 minutes for the conventional technique (p=0.045).
- The average fluoroscopy time for the RF transseptal puncture was 1.8 minutes compared to 2.9 minutes for the conventional technique (p=0.043).
- RF transseptal puncture was successful in all patients. Four patients undergoing the conventional technique required crossover to the RF transseptal puncture (p=0.003).
Brief Summary | NRG™ Transseptal Needle

**CAUTION:** Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete “Instructions for Use” for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator’s Instructions.

**INDICATIONS FOR USE:** The NRG™ Transseptal Needle is used to create an atrial septal defect in the heart. Secondary indications include monitoring intracardiac pressures, sampling blood, and infusing solutions.

**CONTRAINDICATIONS:** The NRG™ Transseptal Needle is not recommended for use with any conditions that do not require cutting or coagulation of soft tissue.

**WARNINGS:** Laboratory staff and patients can undergo significant x-ray exposure during radiofrequency puncture procedures due to the continuous usage of fluoroscopic imaging. This exposure can result in acute radiation injury as well as increased risk for somatic and genetic effects. Therefore, adequate measures must be taken to minimize this exposure. The NRG™ Transseptal Needle is intended for single patient use only. Do not attempt to sterilize and reuse the needle. Reuse can cause the patient injury and/or the communication of infectious disease(s) from one patient to another. Failure to do so may result in patient complications. The NRG™ Transseptal Needle must be used with the BMC Connector Cable. Attempts to use it with other connector cables can result in electrocution of the patient and/or operator.

**PRECAUTIONS:** Placement of the dispersive electrode on the thigh or hip could be associated with higher impedance. In order to prevent the risk of ignition make sure that flammable material is not present in the room during RF power application. Careful needle manipulation must be performed to avoid cardiac damage, or tamponade. Needle advancement should be done under image guidance. If resistance is encountered, DO NOT use excessive force to advance or withdraw the needle. During power delivery, the patient should not be allowed to come in contact with ground metal surfaces. Thoroughly flush the NRG™ Transseptal Needle with heparinized saline solution prior to use. If using electroanatomical mapping guidance it is recommended to confirm tip placement on the fossa ovalis and septal tenting before RF puncture with graphic imaging or another imaging modality.

**ADVERSE EVENTS:** Adverse events that may occur while using the Baylis Medical Radiofrequency Puncture System include: Tamponade • Sepsis/Infection • Thromboembolic episodes • Vessel perforation • Atrial Fibrillation • Myocardial Infarction • Vessel spasm • Sustained arrhythmias • Atrial Flutter • Hemorrhage • Vascular thrombosis • Perforation of the myocardium • Hemotoma • Allergic reaction to contrast medium • Ventricular Tachycardia • Pain and Tenderness • Thermal damage to tissue • Arteriovenous fistula • Pericardial Effusion

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