Maze Procedure
(70114)

Effective April 15, 2008

Contracts Affected:
All Community Blue HMO
Senior Blue/Medicare PPO
Traditional Blue

The following protocol contains medical necessity criteria for Maze Procedure services rendered on or after April 15, 2008 for BlueShield of Northeastern New York (BlueShield) contracts. If these criteria are not met, reimbursement will be denied and the patient cannot be billed. Prior approval is not required. Please note that payment for covered services is subject to the limitations noted in the above-referenced contracts and the patient's eligibility at the time the services are rendered.

Description
The classic Cox maze III procedure is a complex surgical procedure that involves sequential atriotomy incisions that interrupt potential re-entrant circuits that interrupt the aberrant atrial conduction pathways in the heart for patients with atrial fibrillation. The procedure is also intended to preserve atrial function (pumping). It is indicated for patients who do not respond to medical or other surgical antiarrhythmic therapies and is often performed in conjunction with correction of structural cardiac conditions such as valve repair or replacement. This procedure is considered the gold-standard for surgical treatment of drug-resistant atrial fibrillation (AF) with about 90% success rate.

The maze procedure entails making incisions in the heart that:

- direct an impulse from the sinoatrial (SA) node to the atrioventricular (AV) node;
- preserve activation of the entire atrium; and
- block re-entrant impulses that are responsible for atrial fibrillation (AF) or atrial flutter (AFI).

The classic Cox maze procedure is performed on a non-beating heart during cardiopulmonary bypass. Simplification of the maze procedure has evolved with the use of different ablation tools such as microwave, cryotherapy, ultrasound, and radiofrequency energy sources to create the atrial lesions instead of employing the incisional technique used in the classic maze procedure.

In addition, less invasive, trans-thoracic, endoscopic, off-pump procedures to treat drug-resistant AF are being developed and evaluated.

Atrial fibrillation is a supraventricular tachyarrhythmia, characterized by disorganized atrial activation with ineffective atrial ejection. The underlying mechanism of AF involves interplay between electrical triggering events and the myocardial substrate that permits propagation and maintenance of the aberrant electrical circuit. The most common focal trigger of AF appears to be located within the cardiac muscle that extends into the pulmonary veins. The atria are frequently abnormal in patients with AF and demonstrate enlargement or increased conduction time. Atrial flutter is a variant of atrial fibrillation.

The U.S. Food and Drug Administration (FDA) approved (January 2002) the Medtronic Cardioblate System, which uses radiofrequency (RF) energy to ablate cardiac tissue. The Cardima SAS (Surgical Ablation System) used during mini-thoracotomy received 510(k) approval by the FDA in 2003 as substantially equivalent to the Medtronic device for performing ablation of cardiac tissue with RF energy. Another bipolar RF device approved for use in surgical procedures is manufactured by Aticure, Inc.
Corporate Medical Guideline

The maze procedure, performed on a non-beating heart during cardiopulmonary bypass with or without concomitant cardiac surgery is considered medically appropriate for treatment of drug-resistant atrial fibrillation or flutter.

Minimally invasive, off-pump maze procedures, including pulmonary vein isolation via mini-thoracotomy, are considered investigational for treatment of drug-resistant atrial fibrillation or flutter because they are unproven outside the investigational setting.

*For explanation of experimental and investigational refer to the Technology Assessment Protocol.*

Prior approval is not required. BlueShield fully expects that only appropriate and medically necessary services will be rendered. BlueShield reserves the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures.

References


Last Review Date
Reviewed with literature search/July 2008

Next Review Date
Review with literature search/July 2009