**RATES OF INSIDE-OUT ABRASION LEADING TO LEAD EXTERNALIZATION AS DIAGNOSED BY STANDARD CHEST X-RAYS**

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Background: Recent publications have highlighted a high rate of lead failure in the SJM Riata family of defibrillator leads due in part to abrasion leading to cable externalizations in the heart. Company product performance data suggests that the rate of failure is less than 0.5% at six years. Independent investigators utilizing fluoroscopy have noted failure rate as high as 30%. We performed a retrospective analysis of patients implanted with the Riata family of leads to determine the rate of inside out abrasion as visualized by chest x-ray.

Methods: A database was queried to determine patients in whom the Riata family of leads was implanted. 78 patients were identified. Any CXR performed 6 months after the time of implantation was identified. 53 of the 78 (67.9%) patients had at least one CXR available for review. A total of 231 films were reviewed (Average of 4.3 images per patient). Each image was reviewed by two independent investigators without knowledge of the other investigators findings.

Results: 4 of 53 patients had clear evidence of lead externalization (7.54%). 3 of 53 patients had images which were suggestive of, but not conclusive for, lead externalization (5.66%). In the remaining patients (87%), no lead externalization was visualized.

Discussion: Our data is consistent with other independent investigators and suggests lead cable externalization in the Riata family of defibrillation leads occurs more frequently than product performance reports suggest. This high rate of cable externalization has significant health implications for patients with this lead implanted.