



# LVAD Driveline Infection Prevention: Data to Support the Use of Antimicrobial Silver-Plated Dressings and Standard Securement

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## Introduction

- Driveline exit site (DLES) infections are associated with increased mortality and morbidity in patients with durable left ventricular assist devices (LVADs), placing a significant burden on both patients and healthcare providers.
- With no gold standard for driveline exit site care, there is a need for data to support clinical practice.
- In January 2023 we worked with infection prevention colleagues to develop and implement a new protocol for driveline exit site care.

## Purpose

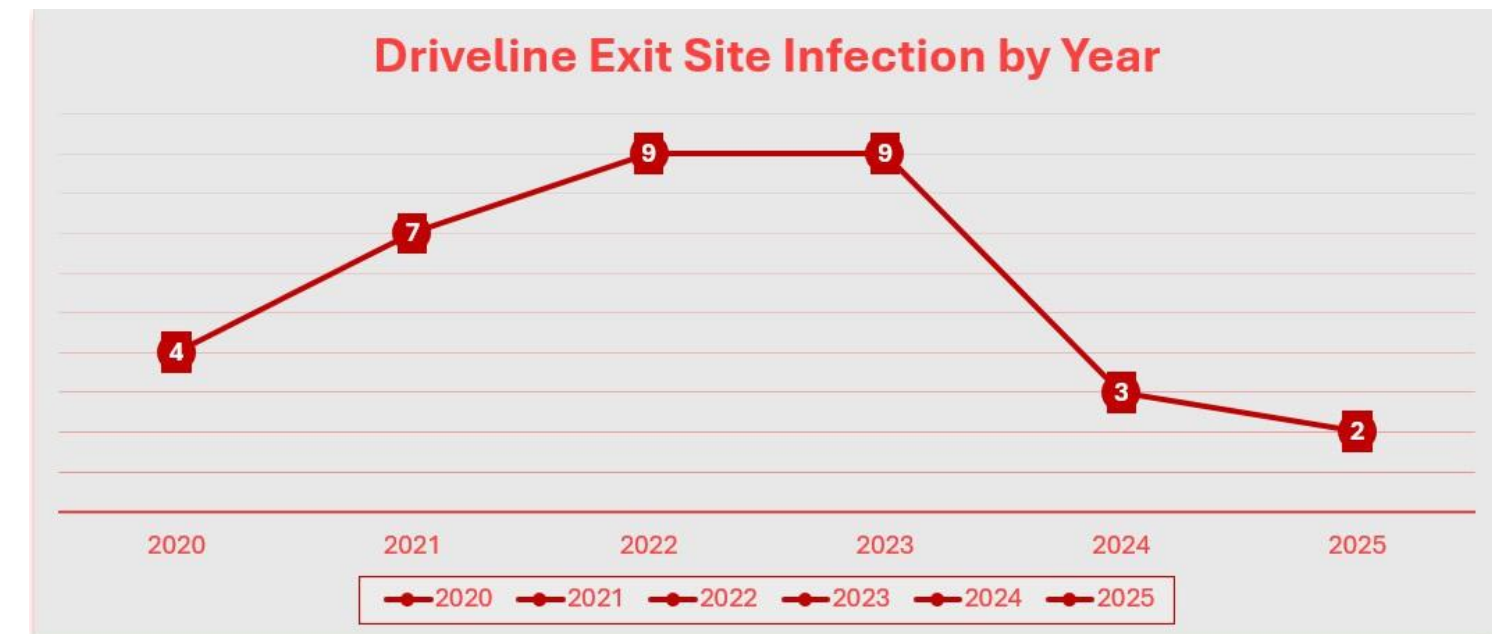
- The purpose of this study was to compare DLES infections before and after the implementation of a new evidence-based protocol to decrease DLES infection.

## Methods

- The new protocol included practice standards for the OR, post LVAD hospital and discharge care, and hospital readmission.
- It also included standard education for nurses, patients and post discharge patient caregivers on type of dressing (antimicrobial silver-plated technology), frequency of dressing change, implementation of a TUG protocol which included the use of driveline securement with CathGrip.
- DLES infection June 2019-December 2022 were compared to DLES infection after the implementation of the new protocol (January 2023-current).

## Results

**Table 1: DLES infection data pre & post implementation of DLES infection prevention protocol**



**Table 2: Summary of the impact of DLES infection**

	Total # of Patients	Total # of Infections	Percentage of LVAD infections	DLES Hospitalizations	Percentage of patients with DLES infections hospitalized	Gram Negative Bacteria Identified	Bacteria Species per Patient
2019	15	6	40%	12	83%	60%	2.33
2020	4	1	25%	4	100%	100%	3
2021	10	3	30%	8	67%	33%	1.67
2022	18	6	33%	6	67%	16%	1.83
2023	20	4	20%	6	50%	0%	1
2024	12	0	0%	0	0%	0%	0

## Conclusion

- While driveline infection data collection is ongoing, Tables 1&2 highlight the positive impact of the new protocol on LVAD patients with a HeartMate 3 device.
- DLES infection from the first full year of implementation of the new protocol (2023) resulted in a large reduction in DLES infections vs. any of the years 2019-2022 where the previous protocol was being used.
- The use of silver-based dressings is a current best practice ICCAC (International Consortium of Circulatory Assist Clinicians) recommendation.
- The use of antimicrobial silver-plated dressing technology in combination with driveline securement warrants further study as an additional best practice recommendation.