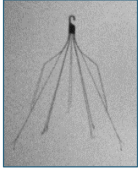


Denali Filter Experience

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Disclosures

- Consulting
 - Medtronic
 - BD

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Background

- Utilization of IVC filters has changed dramatically over the past 20 years
 - Increased implantation until 2010 when the FDA issued the initial communication regarding adverse events of IVC filter placement
 - A second warning issued by the FDA in 2014 gave rise to significant research (and lawsuits) around IVC filters

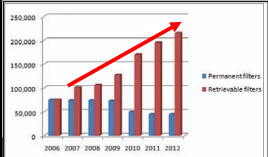


Figure 3. IVC filter market projected change from 2006 to 2012.

Goldman Sachs. (2014, Dec 03). **Complications of inferior vena cava filters.** Retrieved from [http://www.gcs.com](#)

Long-term retrievability of IVC filters: should we abandon permanent devices? *Journal of Vascular Medicine and Biology*. (2014, April 15). Retrieved from [http://www.lww.com](#)

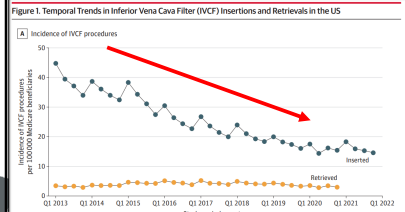
Decision analysis of retrievable inferior vena cava filters in patients without pulmonary embolism. *Journal of Vascular Medicine and Biology*. (2014, April 15). Retrieved from [http://www.lww.com](#)

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Background

- There has been a significant decline in the number of filters placed

Figure 1. Temporal Trends in Inferior Vena Cava Filter (IVCF) Insertions and Retrievals in the US



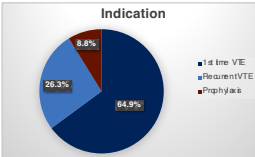
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Background

JAMA | Original Investigation
Postmarketing Surveillance of Inferior Vena Cava Filters Among US Medicare Beneficiaries
The SAFE-IVC Study

- 2024 retrospective study of Medicare Fee-for-Service beneficiaries from 2013-2021
 - 280,866 patients had filters placed
 - 64.9% for first-time venous thromboembolism
 - 63.3% had major bleed or trauma within 30 days of placement

Indication



- 1st time VTE
- Recurrent VTE
- Prophylaxis


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Background

JAMA | Original Investigation
Postmarketing Surveillance of Inferior Vena Cava Filters Among US Medicare Beneficiaries
The SAFE-IVC Study

- Medicare study also stressed the importance of filter retrieval
 - Remain concerningly low (17-20%)

Proportion of IVCs retrieved



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Filter Complications

- Tine penetration
- Filter fracture
- Migration
- Caval Thrombosis

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Denali Filter Evolution

- The Denali (BD) has evolved often to address the issues with IVC filters and improve ease of retrieval.
 - Improvements on migration and fracturing with electropolishing and titanium anchors

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Denali Structural Design

- The Denali is designed to mitigate tilt
- Staggered length legs allows dual level filtration
- Cranial and caudal anchors with penetration limiter

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Denali Retrieval

- Smooth neck design encourages easy snare capture
- Snare hook seamlessly welded to filter body for centered and balanced snaring
- Strong and highly visible

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Filter Retrieval Program

- The BD Reach™ Program
 - Physicians can register for the program (free) and patient information entered
 - Longitudinal follow-up of patients across systems
 - Physician practice will receive reports on enrolled patients
 - Excellent tool to help prevent:

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Summary

- IVC filter implantation has declined in recent years
- Denali filters have evolved
 - o Electropolishing for strength
 - o Shaped titanium anchors to prevent migration/tine penetration
 - o Smooth hook to aid retrieval
- To address the persistent issue with low retrieval rates, BD Reach™ Program is a free service to track patients with implanted filters

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Thank you!



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