

Utilization of IVC Filter Placement and Retrieval Among Medicare Beneficiaries Post-FDA Warning Letters, 2013-2021

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Purpose:

To examine utilization of IVC filter placement and retrieval among Medicare beneficiaries since FDA warning letters in 2010 and 2014 urging vena cava filter retrieval, and to examine differences by provider specialty.

Materials & Methods:

The CMS Physician Supplier Procedure Summary (PSPS) files for 100% of Part B services for the years 2013 through 2021 were analyzed for overall numbers of IVC filter placements and retrievals (CPT codes 37191 and 37193, respectively). Subset analyses were done according to physician specialty type.

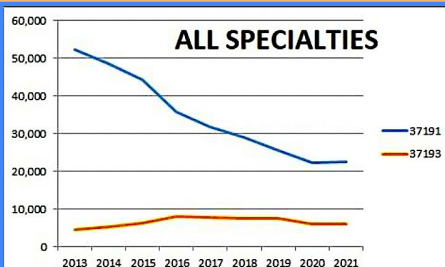


Figure 1: IVC filter placement (blue) and retrieval (orange) by year, all specialties

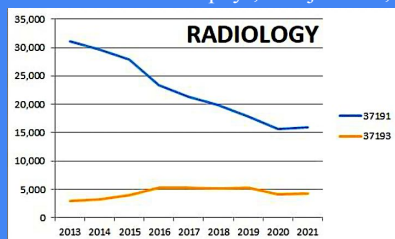


Figure 2: IVC filter placement (blue) and retrieval (orange) by year, radiology

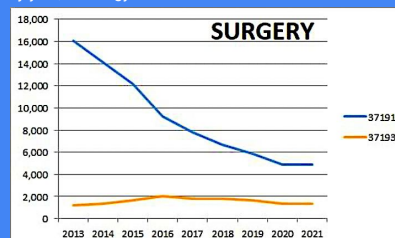


Figure 3: IVC filter placement (blue) and retrieval (orange) by year, surgery

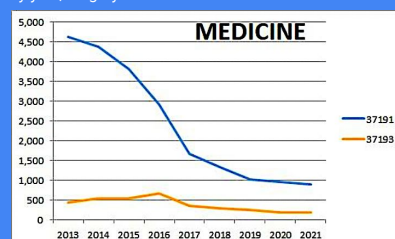


Figure 4: IVC filter placement (blue) and retrieval (orange) by year, medicine

Results:

Of the years examined, IVC filter placement was highest in 2013 (52,413) and decreased every year, to a low of 22,571 in 2021. Annual IVC filter placement volume dropped by 57% between 2013 and 2021. Overall filter retrievals increased during the interval from 4,608 in 2013 to 6,011 in 2021. The ratio of retrievals to placements increased from 9% in 2013 to 27% in 2021, but peaked in 2019 at 29%. 96.9% of filter placements in 2021 were captured by the specialty analysis. Of the 813 that weren't captured that year, 664 had the specialty identifier blank. Radiologists (30 & 94) placed the majority of IVC filters, ranging from 59% of the total in 2013 to 70.7% in 2021. In 2021, surgeons (2, 33, 77, 78) placed 21.7% and internal medicine/cardiology (1, 6, 8, 11, C3) placed 4.0%. Between 2013 and 2021, filter placement volume decreased for all specialties, including radiologists by 49%, surgeons by 67%, and by internal medicine/cardiology by 80%. In 2021, the ratio of retrievals/placements for radiologists was 26.6%, for surgeons 27.5%, and for internal medicine/cardiology was 20.6%. The retrieval/placement ratio increased between 2013 and 2021 for radiologists by a factor of 2.8, for surgeons by a factor of 3.6, and for internal medicine/cardiology by a factor of 2.2.

Conclusions: In roughly a decade since publication of FDA warning letters about IVC filters, the ratio of retrievals to placements increased substantially, but is still low. The ratio of retrievals/placements was at least 23% lower for internal medicine/cardiology than radiology or surgery.