

## Introduction:

Endovascular coiling (EVC) therapy and neurosurgical clipping (NSC) continue to serve as two widely accepted neurological interventions for patients who present with both ruptured and unruptured intracranial aneurysms. Data is lacking regarding the preferred intervention amongst a wide patient age spectrum, and the accompanying aneurysm indication for the respective age subset.

## Objectives:

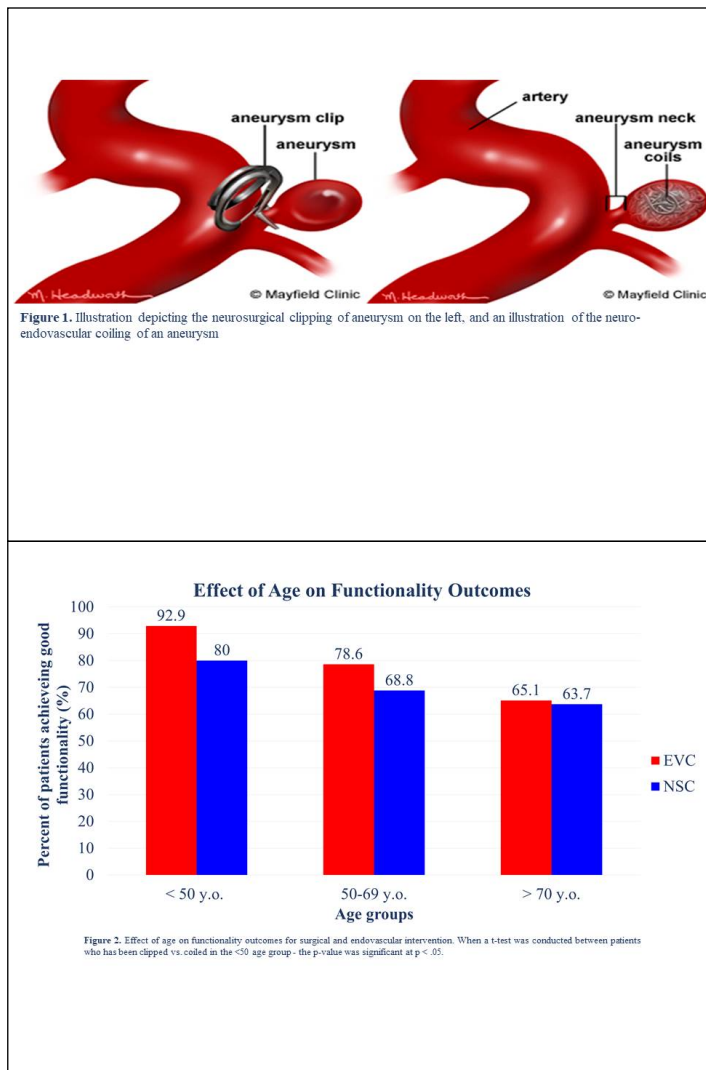
To evaluate the efficiency, safety, and potential advantages of coiling compared with clipping from an extended body of evidence with the intent of refining the decision-making process in choosing which procedure to perform in patients representing a wide range of age and respective aneurysm indications.

## Methods

A comprehensive review of the PubMed database was completed. Patients were divided into 3 age groups: <50, 50-69, and >70. Three outcomes were assessed with regards to the following criteria: 1) functionality (mRS of 0-3, GOS of 4 or 5) 2) safety (lack of perioperative or postoperative complications), and 3) efficacy (obliteration of aneurysm, lack of readmission, lack of re-bleeding, or need for revision).

## Results

Total cohort for the 30 included studies was 13,846 patients: 485 young age, 9,215 middle age, 4,146 elderly age. Favorable functionality was better achieved for coiled versus clipped patients in all age groups - young, middle aged, and elderly (92.9% v 80%; 78.6% v 68.8%; 65.1% v 63.7%), while favorable safety was better achieved for coiled versus clipped patients in the young and middle age, but not the elderly (8.4% v 24.6%; 17.1% v 19.2%; 9.4% v 5.4%). Favorable efficacy was better achieved for coiled versus clipped patients in the elderly, but not the young and middle age groups (92.3% v 96.7%; 97.8% v 98.5%; 86.1% v 82.3%).



## Discussion:

Given the findings of our review, not only have we reaffirmed the data in the current literature in regards to the comparison of outcomes between clipping and coiling, but we also have emphasized the need for more research on the matter. The analysis of the current literature proves that the decision regarding what intervention is the most appropriate warrants the consideration of several other competing variables. The overall state and functionality of the patient upon admittance as well as the location of the aneurysm are just a few factors surgeons must take into consideration prior to their involvement.

## Conclusion:

While clipping seems to be the choice for ensuring functionality in young and middle-aged populations, outcomes pertaining to which intervention is associated with the best outcomes within the elderly remain unclear, justifying further investigation.

## References

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