



# Introduction of Interventional Radiology

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# Interventional Radiology



**Minimum Access – Maximum Result**

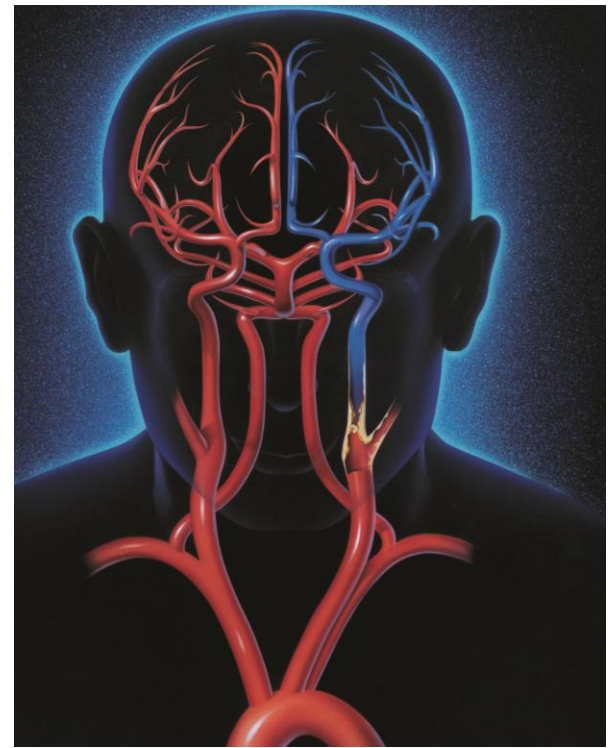
# Interventional Radiology

- Procedures are performed under image guidance, most commonly by **Angiography** or **CT, USG**.
- Most of the procedures are done in **local anesthesia**.
- It's often a **less invasive** option than traditional surgical procedures, Skin incision mostly are less than **5 mm**.



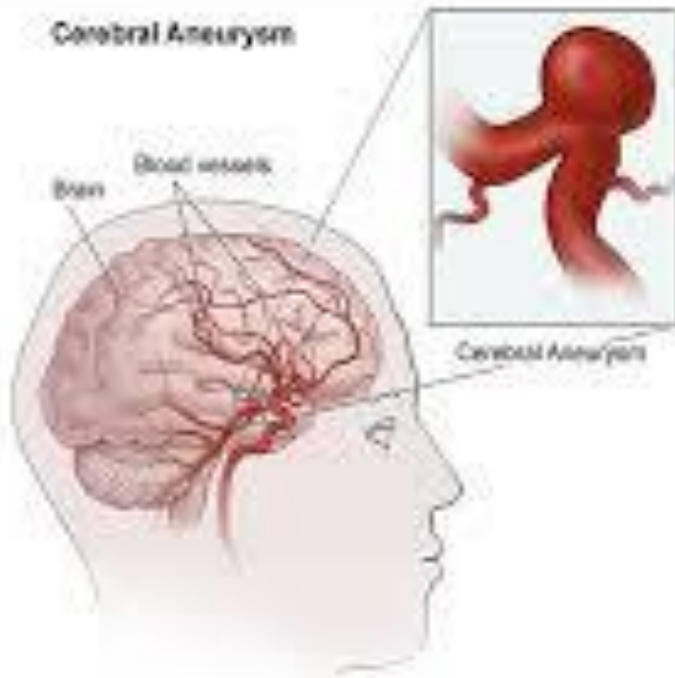
# Neuro

- Cerebral Aneurysms
- Cerebral AVMs and AVFs
- Acute Ischemic Stroke
- Carotid Stenosis
- Spinal AVMs.



# Aneurysm

**EVERY 8 MINUTES AN ANEURYSM RUPTURES**  
**50%** of those individuals die within minutes

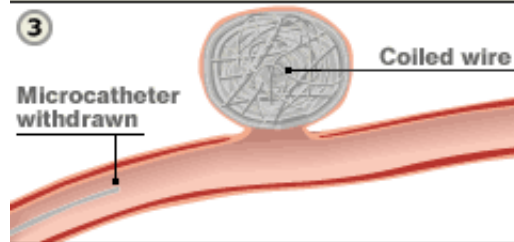
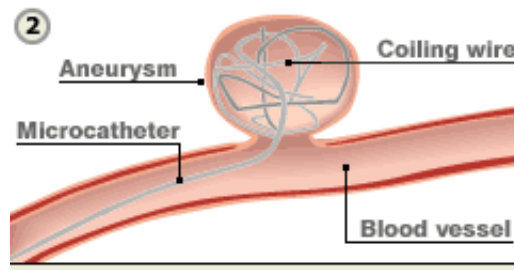
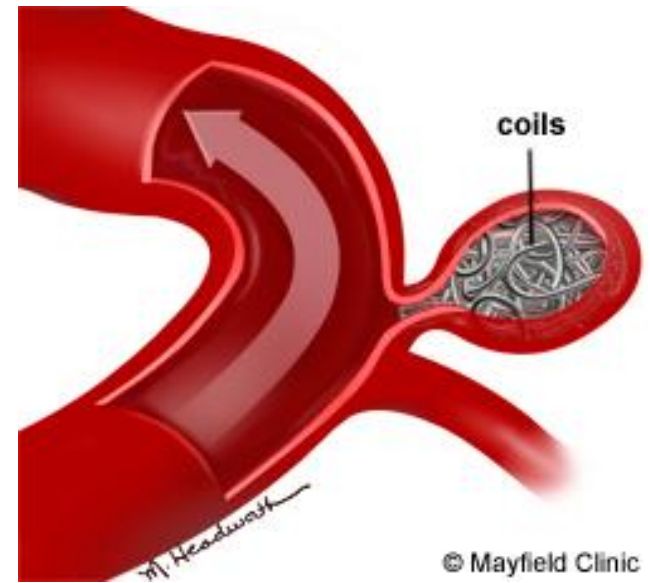
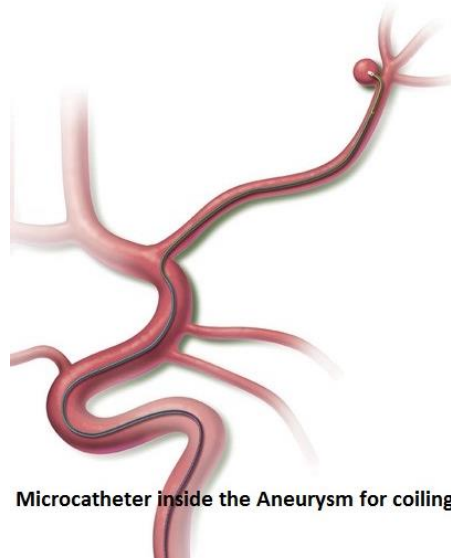
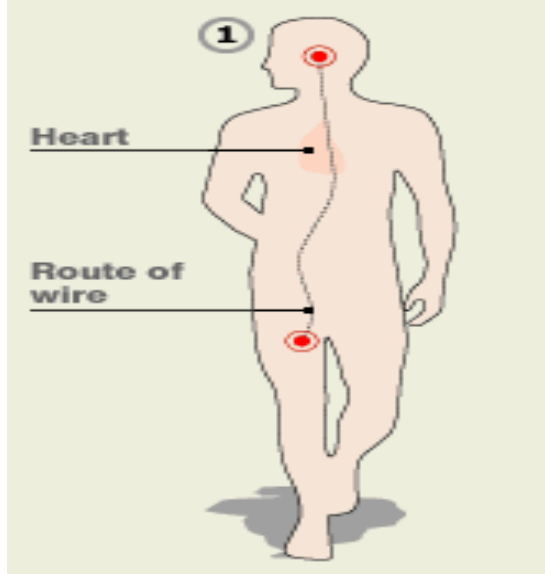


- Approx. 6 million people in the US have a brain aneurysm
- 1 in 15 people will develop a brain aneurysm
- Most common in ages 35-60, but can occur in children as well
- Women, more than men, suffer from brain aneurysms, at a ratio of 3:2


## Rx option:

- Endovascular Coiling
- Surgical Clipping.

# Technique of coiling



**Coil mass inside aneurysm prevents blood from entering it**



# Which one of the two modalities is better?

## Coiling or Clipping

### Coiling vs Clipping for ruptured intracranial aneurysms: A meta-analysis of prospective controlled published studies

RESULTS: These studies enrolled 2723 patients. Meta-analysis of these studies showed that the rate of poor outcome at 1 year was significantly lower in patients allocated to coil embolization (risk ratio, 0.75; 95% confidence interval, 0.65– 0.87).

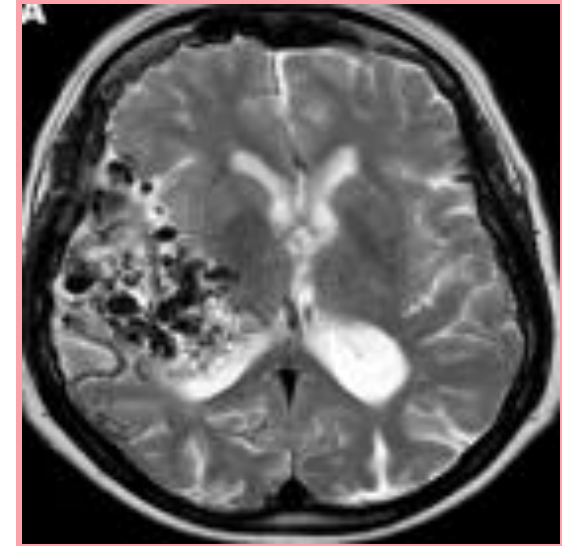
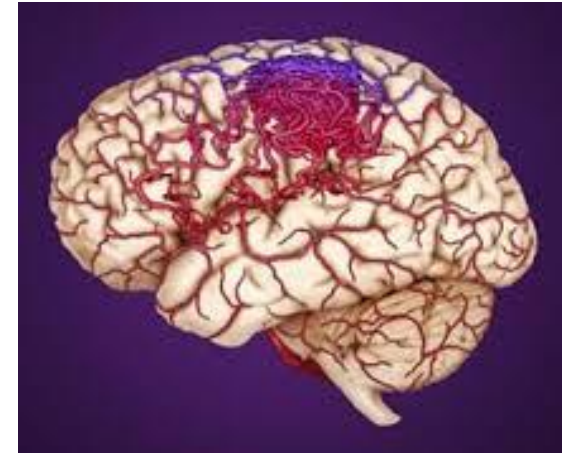
CONCLUSION: On the basis of the analysis of the 3 high-quality prospective controlled trials available, **there is strong evidence to indicate that endovascular coil embolization is associated with better outcomes compared with surgical clipping in patients amenable to either therapeutic strategy.**

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# Arterio-venous malformation (AVM)

- An **AVM** is a complex, tangled web of abnormal arteries and veins without an intervening capillary bed.
- It leads to
  - Seizure,
  - focal neurological deficits,
  - intracranial hemorrhage which may lead to death.
- **AVM Embolization** is done with the aim of eliminating/reducing the risk of hemorrhage







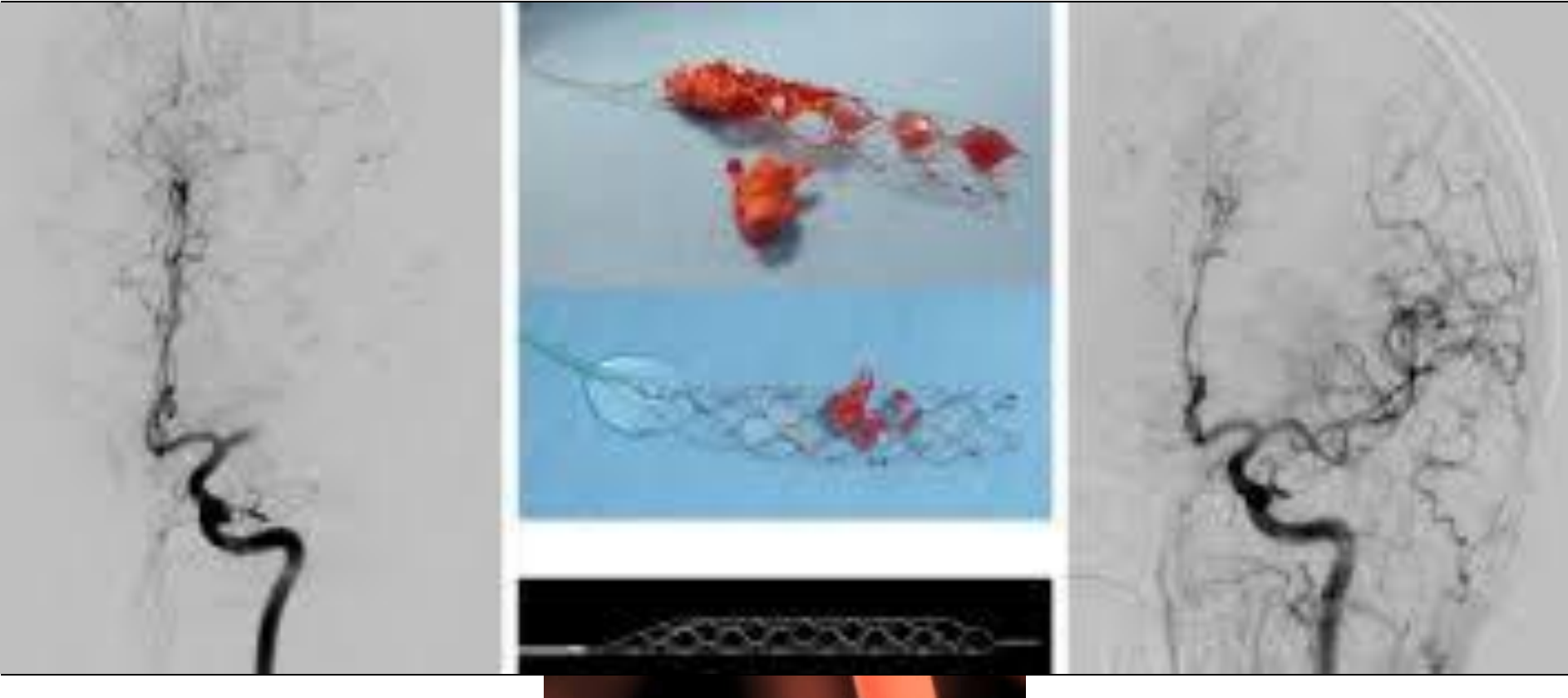
# Acute Ischemic Stroke

- Recanalization is the most important predictor determining outcome.
- tPA achieves complete recanalization in only 10-12% cases of large vessel occlusion (ICA, M1 MCA).

## What we can provide:

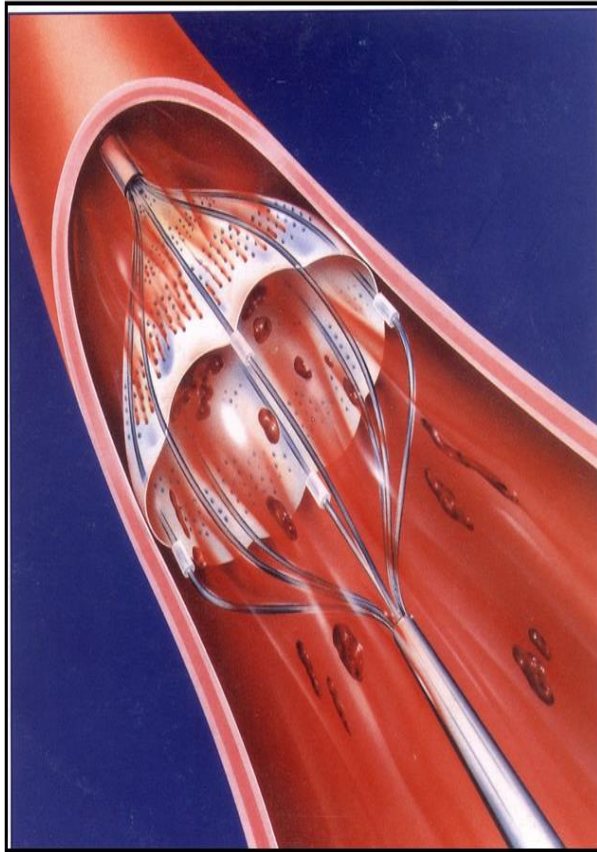
- We can insert a catheter directed device up to the artery where the clot is present and mechanically retrieve the clot.
- Recanalization rate of 72-88%.
- Can be done up to 6 hrs. (*Class 1A evidence*) and beyond after advanced imaging

# Technique of thrombectomy



[https://www.youtube.com/watch?v=n27bKm0a\\_PU](https://www.youtube.com/watch?v=n27bKm0a_PU)

# Carotid Stenting



Filter

