

# FUTURE OF AORTIC ARCH REPAIR

ROGER GREENHALGH

STEP

Stroke from Thoracic Endovascular Procedures Study



# Disclosure

Speaker name:

Roger Greenhalgh

I have the following potential conflicts of interest to report:

- ☐ Consulting
- ☐ Employment in industry
- ☐ Stockholder of a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)
  
- ☒ I do not have any potential conflict of interest

# Funding Acknowledgement

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Octav Botnar – Grateful Patient

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# Learn the Future from the Past

Tuberculosis

Stomach

**Nothing**

**Major surgery  
Open**

**Minor  
intervention**

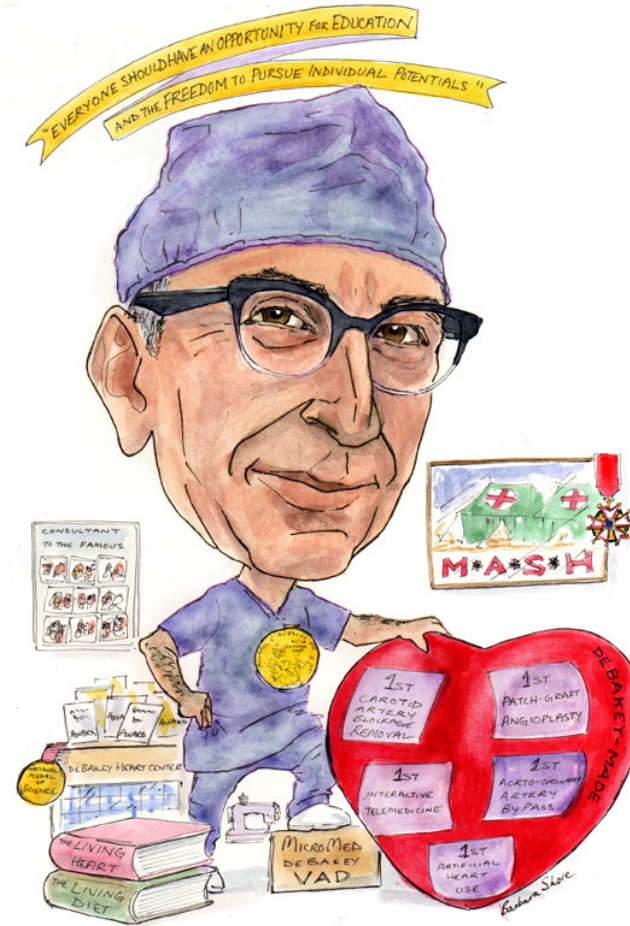
**Medicine**

**Prevention**

Breast

Aorta

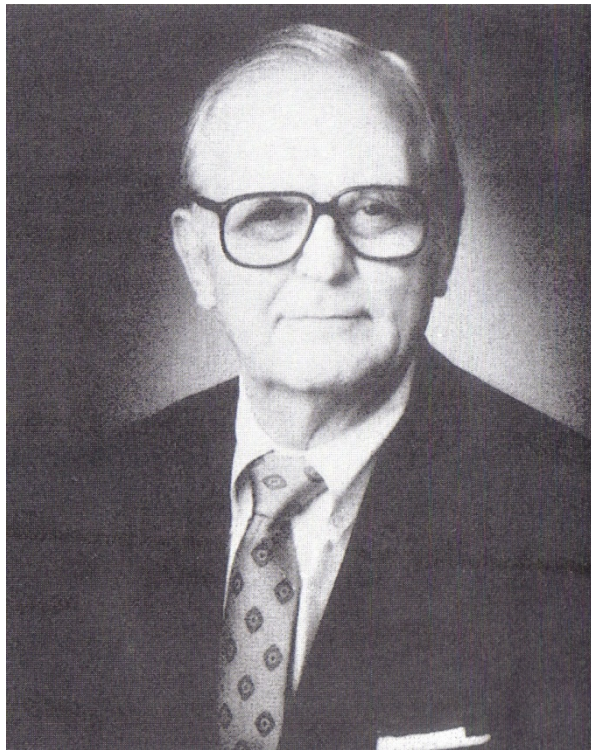
# Major Open Surgery 1908-2008



# Major open surgery 1908-2008

1975 peak: The can opener

**Stanley  
Crawford**



**“Critical  
issues”  
at the SVS**

# Very minor intervention

The tear away: medical student

**Thomas  
Fogarty**



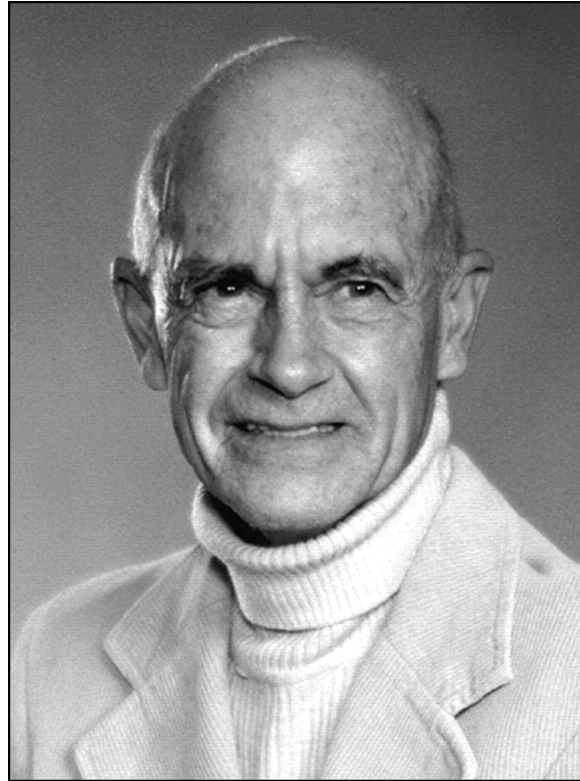
**Embolectomy**



# Lesser invasive

“Is he Crazy Charlie?”

**Dotter**





# Lesser procedure

## Percutaneous transluminal angioplasty

**Grüntzig**



# Palmaz Stent heralds EVAR



# EVAR before 1990

**Volodos**



**He referred to Dotter**

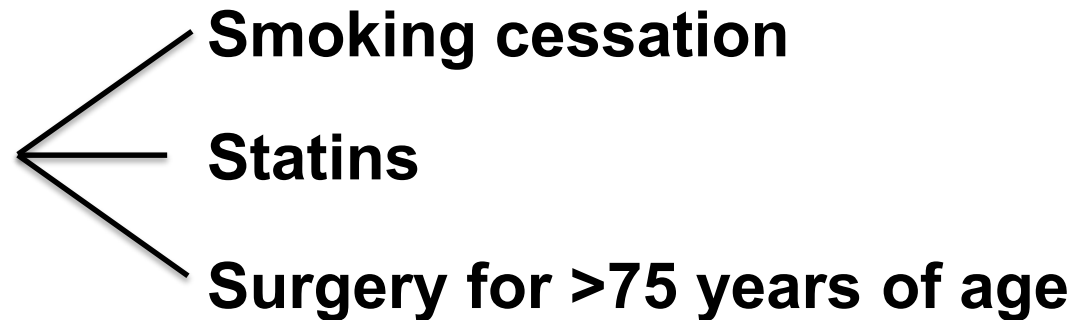
# EVAR 1990

**Parodi**  
**Palmaz**  
**Barone**  
  
**Argentina**



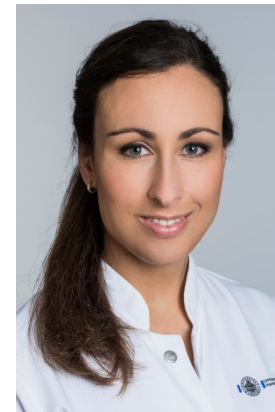
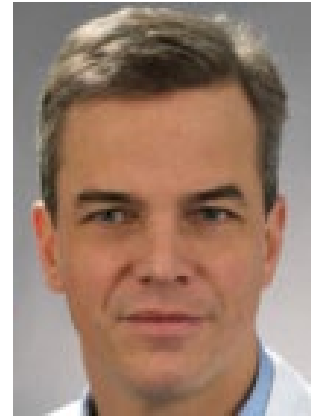
# Abdominal aortic aneurysm referral has fallen

**1994-2000**



**Prevention is with us already**

# STEP INVESTIGATORS

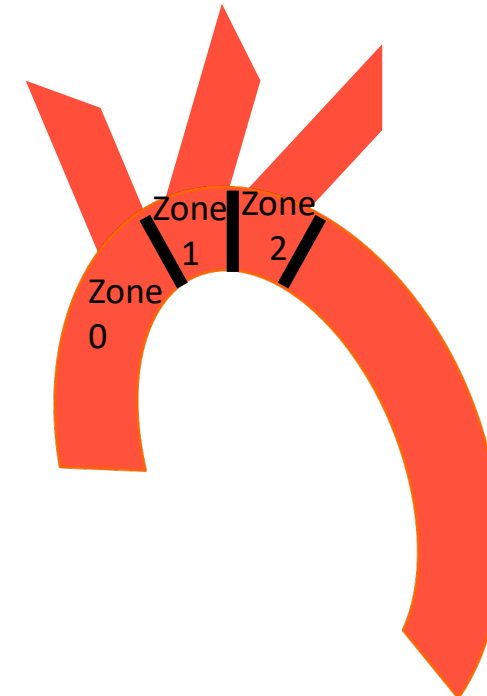




# Aims of the STEP Study

To provide best practice for endovascular procedures for the ascending aorta, aortic arch, great vessel branches and high TEVAR to lower the risk of cerebral embolism

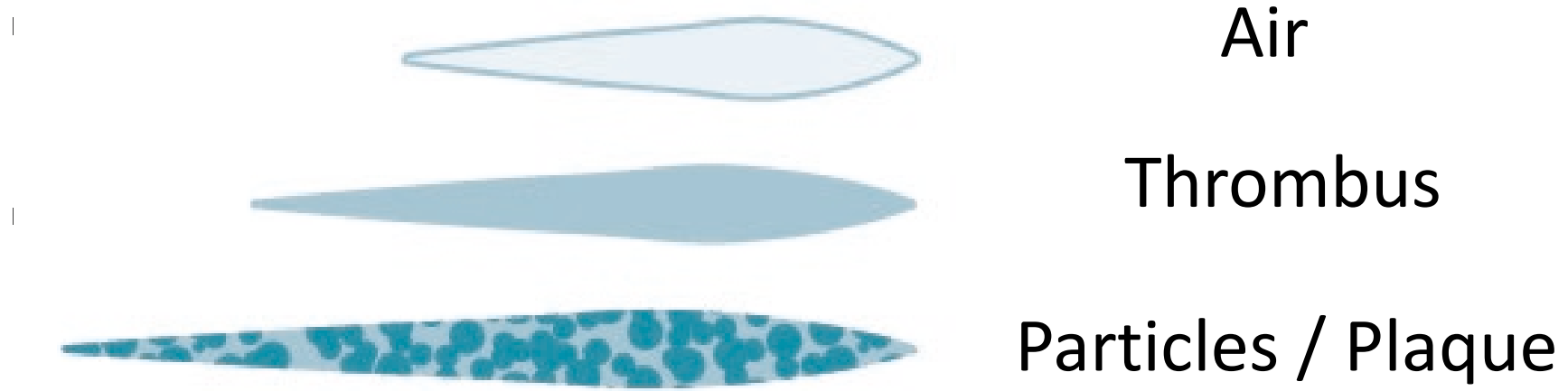
- Ascending aorta: tube grafts, scalloped stent-grafts
- Arch procedures: fenestrated and branched aortic arch stent-grafts (Great vessel involvement)
- Descending aorta: high standard TEVAR procedures landing in zone 2 (Ishimaru)



**STEP Built to learn from each other**



# Pathologies



Stroke from **T**horacic **E**ndovascular **P**rocedures

# The 18 STEP Collaborators



Stéphan Haulon

Tilo Kölbel

} 2 Investigators

Frank Arko

Carlos Bechara

Adam Beck

Dittmar Böckler

Martin Czerny

Michael Dake

Matthew Eagleton

Dennis Gable

William Jordan

Ahmed Koshty

Gustavo Oderich

Jean Panneton

Geert Schurink

Santi Trimarchi

Rod White

Marwan Youssef

16 Collaborators

# The STEP Advisors



Neurologist – Hugh Markus



Interventional Cardiologist –  
Simon Redwood



Cardiothoracic Surgeon –  
Heinz Jakob



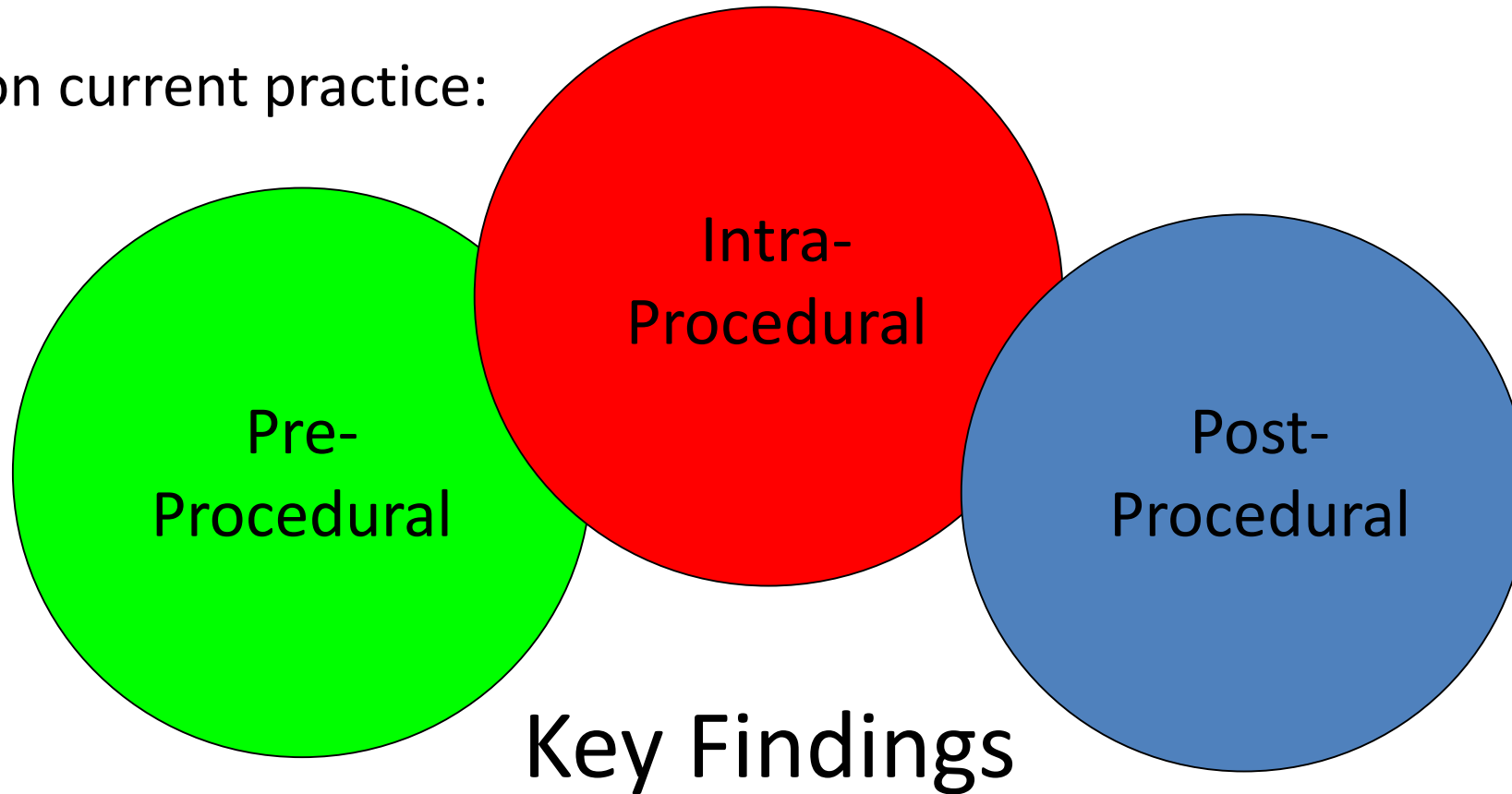
Neuroradiologist -  
Kyriakos Lobotesis



# STEP Questionnaire

## General Questions on experience

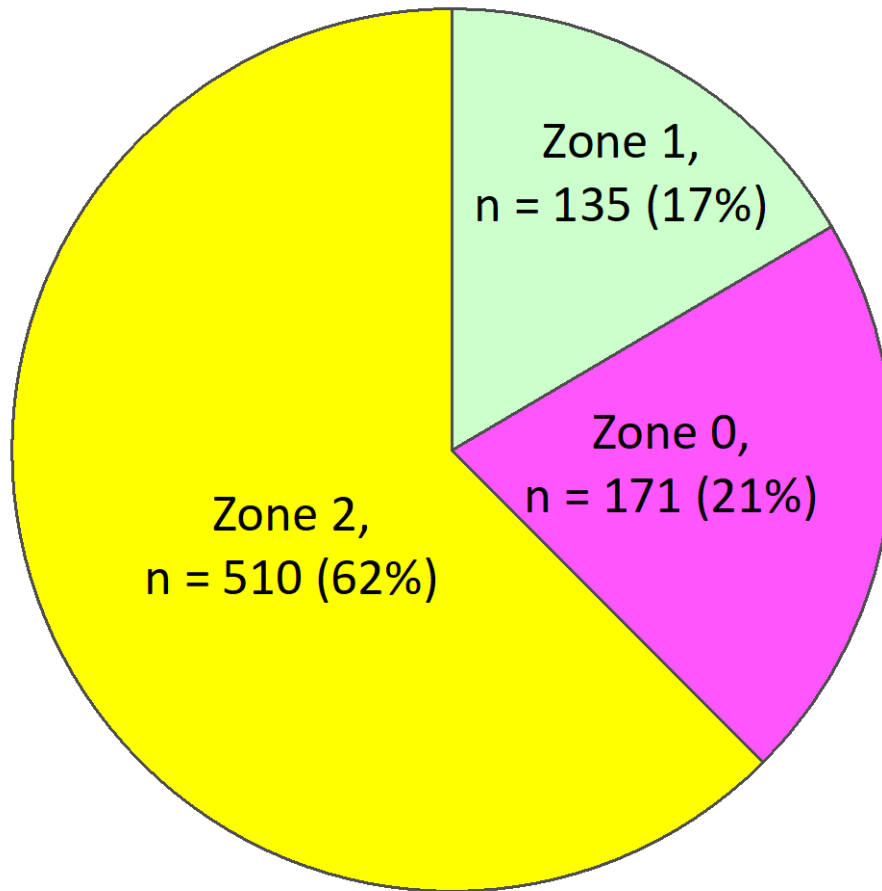
Questions on current practice:



# STEP Results

## Experience of KOL (n = 18)

Numbers of procedures per Zone and per year



## Cumulative years of experience

- Zone 0 = 143 years (range 3 – 15)
- Zone 1 = 193 years (range 4 – 15)
- Zone 2 = 232 years (range 6 – 20)

# Manufacturers of devices used by the 18 Operators



7 of 18



13 of 18



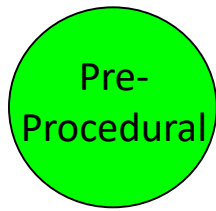
9 of 18



1 of 18

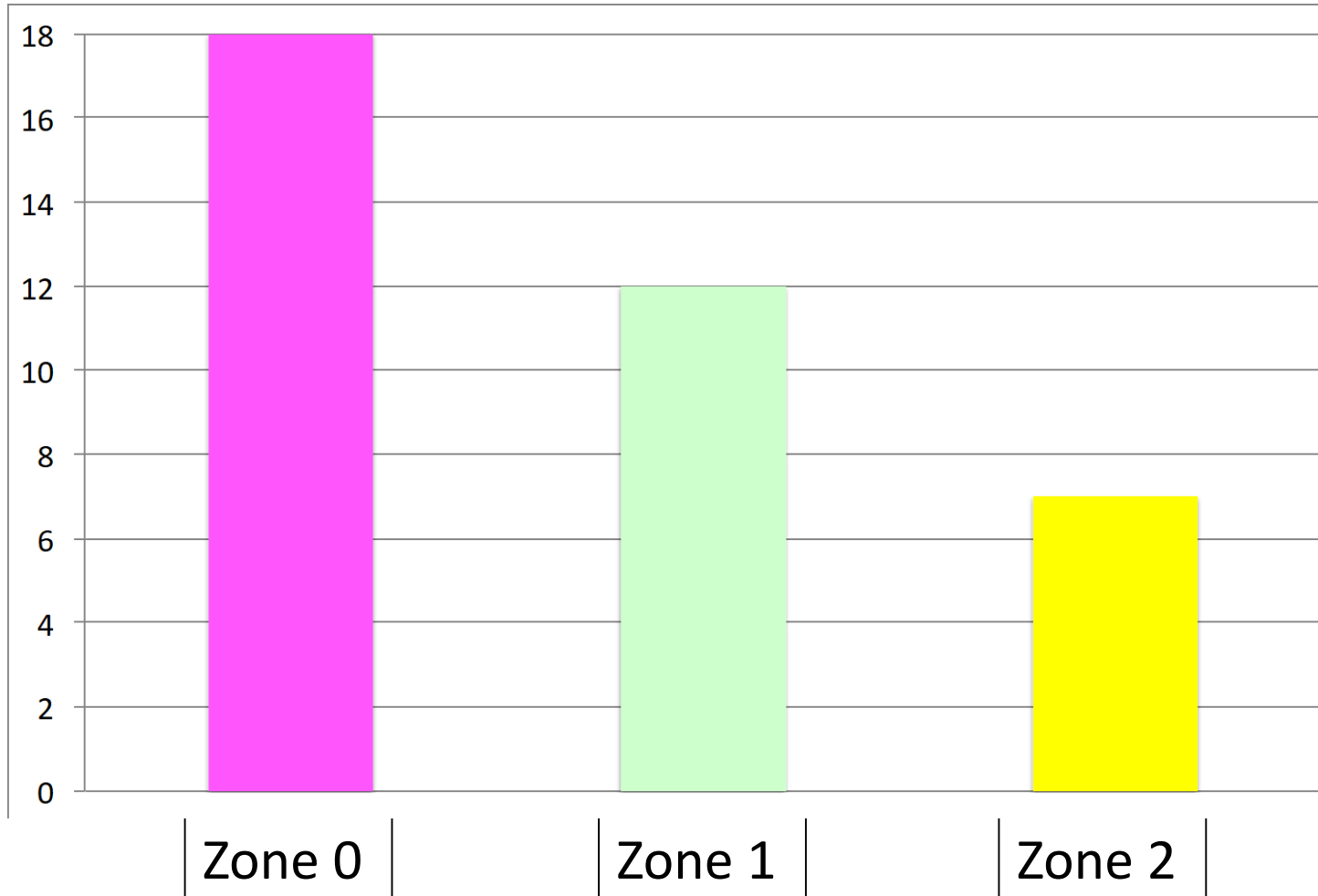


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# Consensus

Interdisciplinary team central to the final decision for treatment strategy





MAJOR OPEN ERA → 1908 - 2008

ENDOVASCULAR ERA → NOW

MEDICAL ERA → SLOW TO COME

PREVENTION → ALREADY



THE SEQUENCE IS INEVITABLE



THE SURGEON MUST ADAPT



BE THOUGHTFUL



DRIVE ADVANCE