Training and pre-interventional models for endovascular treatment of intracranial aneurysms

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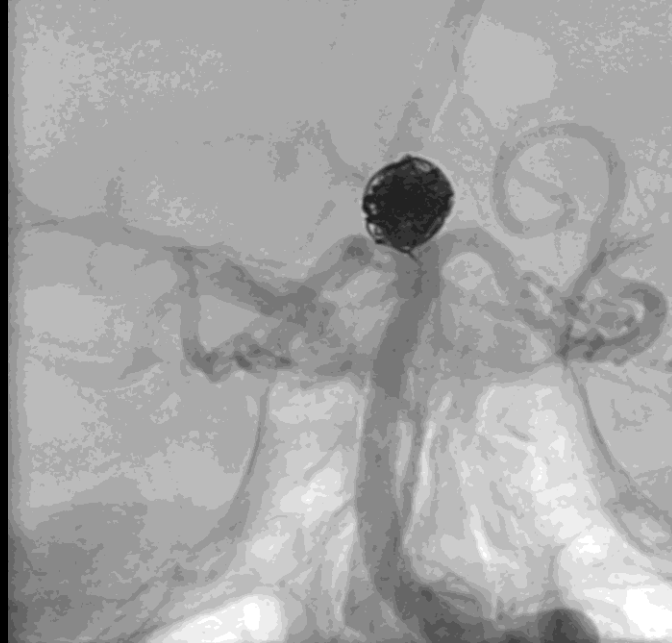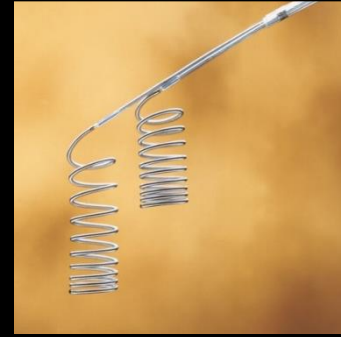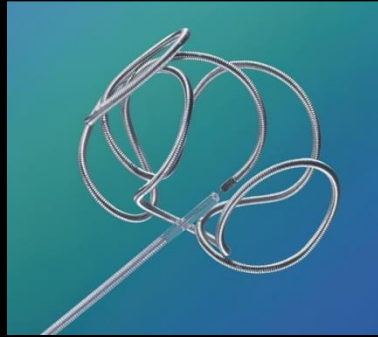**pasquale.mordasini@insel.ch**

Treatment of intracranial aneurysms

Clipping *and* endovascular treatment (coiling)
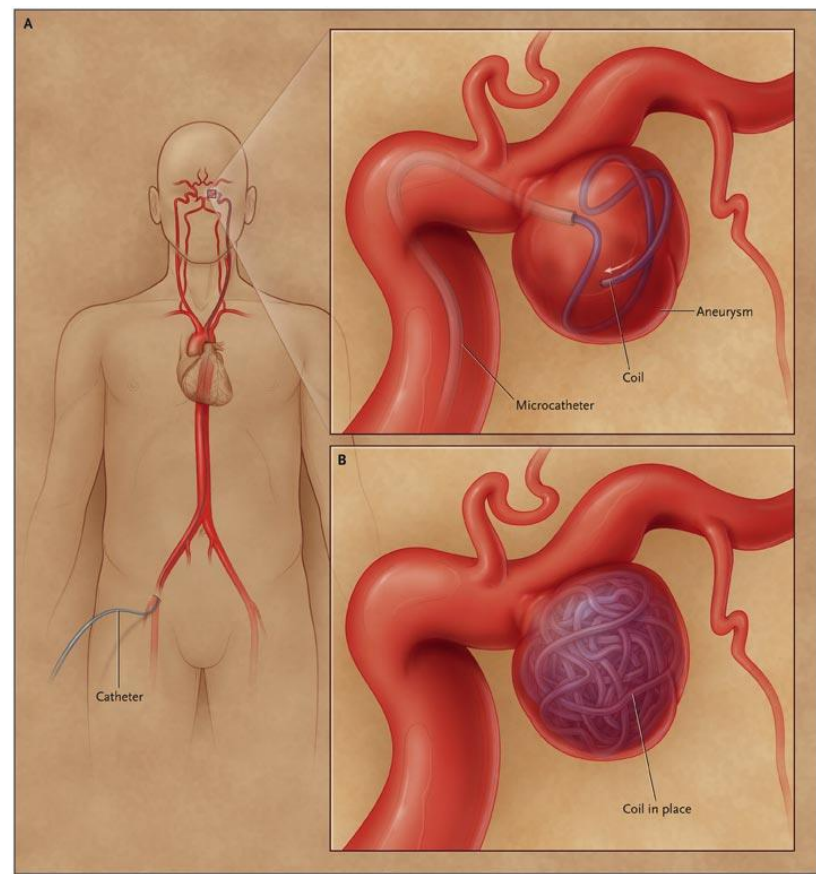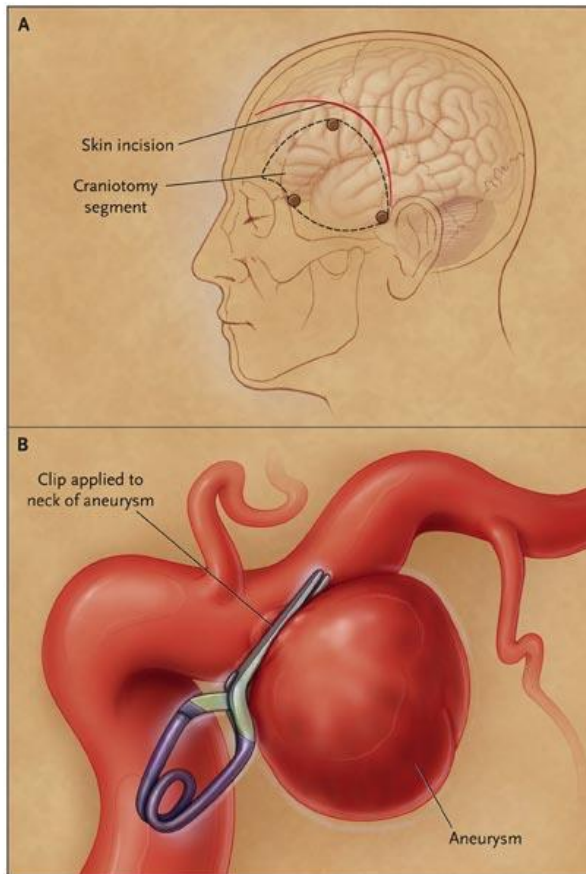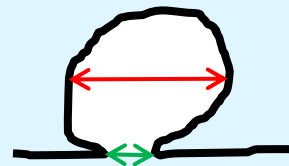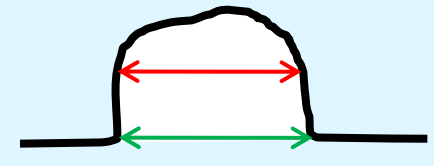
Coiling

Complex aneurysm treatment

- **Aneurysm morphology:**
  - broad/wide neck

Dome-to-neck ratio
width of dome/width of neck:
applicability of endovascular treatment

Dome-to-neck ratio < 2
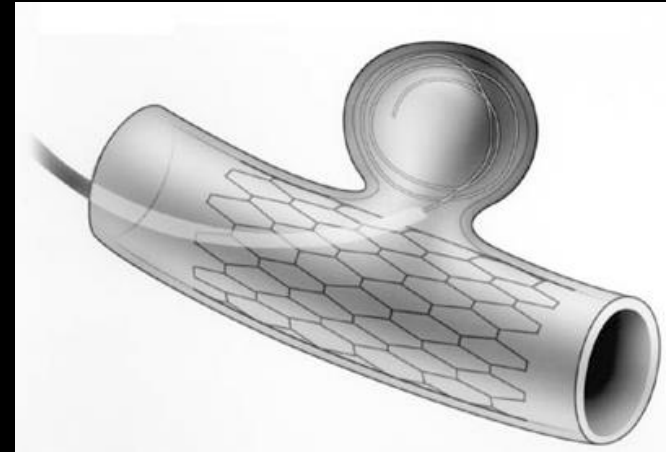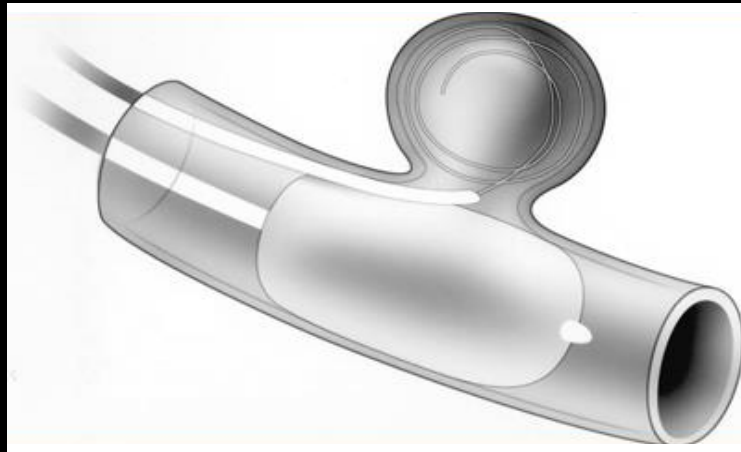coiling without remodeling techniques difficult
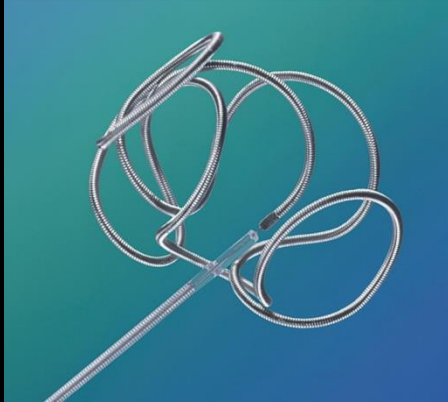
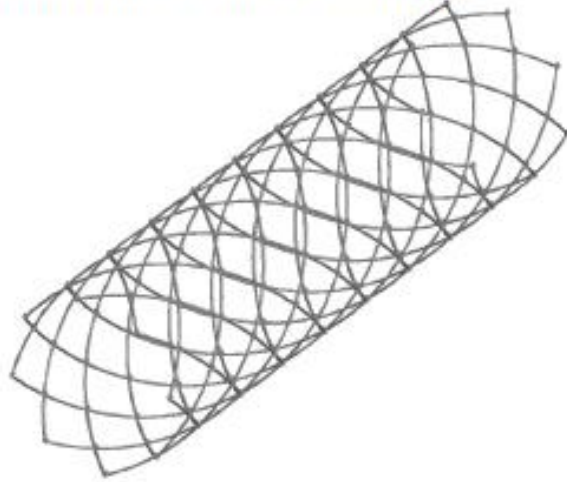 - form (saccular vs fusiform)

  - incorporated branches into the aneurysm sac or neck
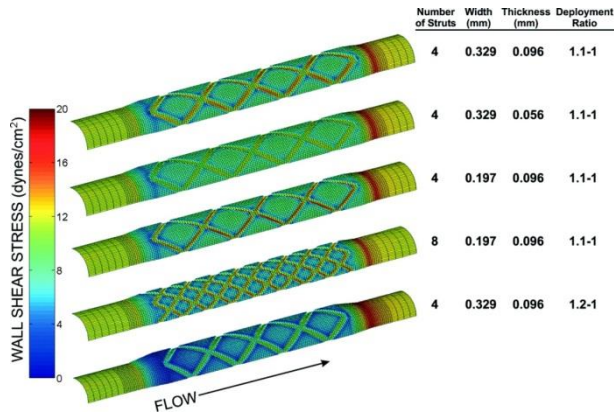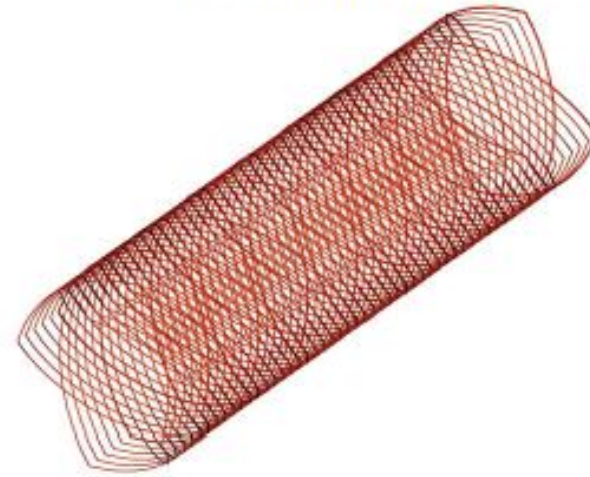
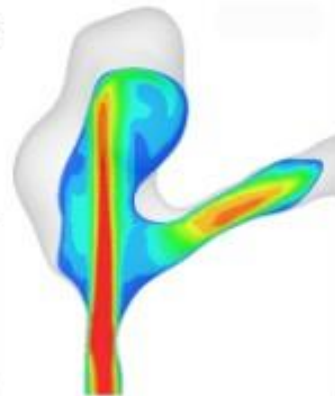# Coils and Remodeling Techniques

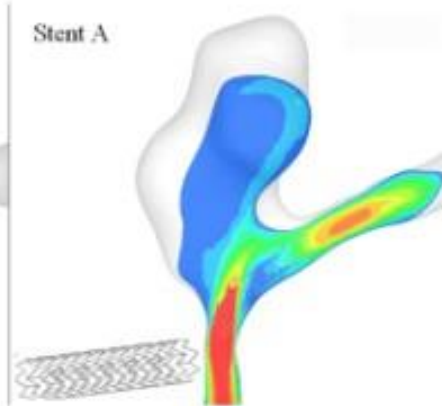# Flow Diverter Stents
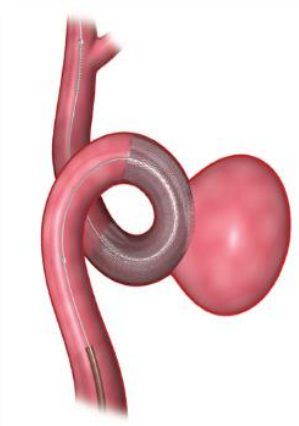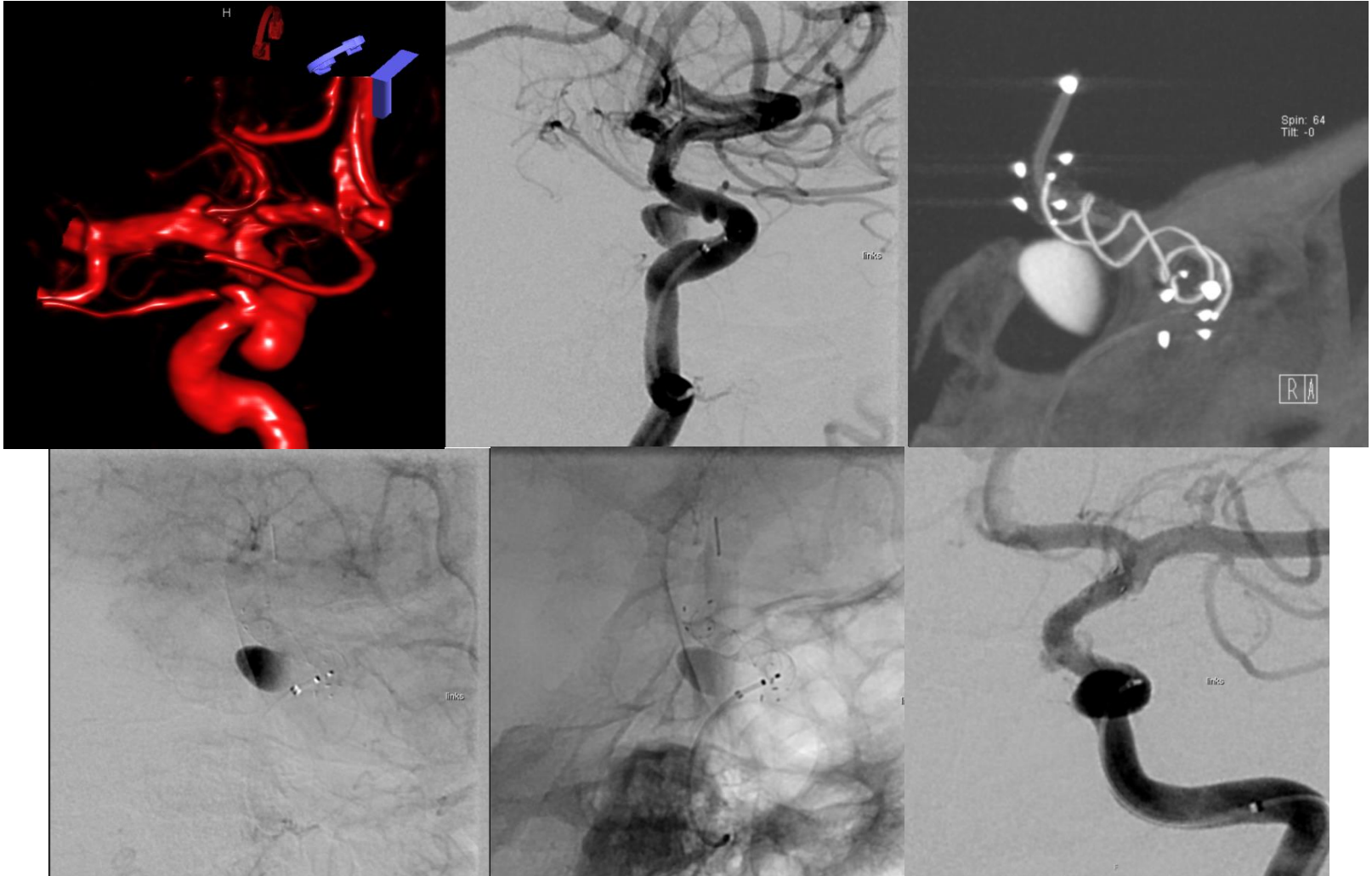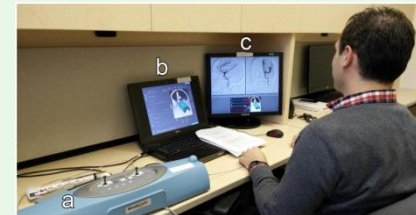
Flow Diverter Stents

Current way of teaching endovascular aneurysm treatment

- **Supervised learning-by-doing in the clinical setting**


- **Computer simulators**

- **In-vivo models**
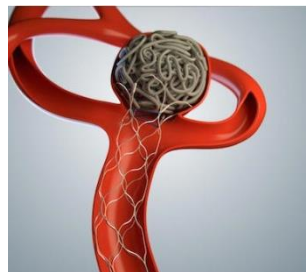

- **In-vitro models**

Approach using models

- **Training / pre-interventional planning of complex aneurysm procedures using different treatment techniques:**

  - patient-specific model / anatomy

  - as close to real-world experience as possible (friction, navigability)

  - affordable production costs and efforts
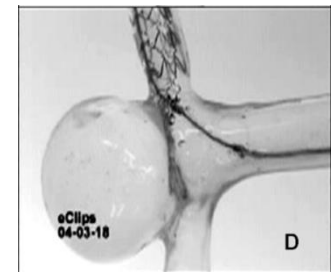
- **Testing / training of novel devices**
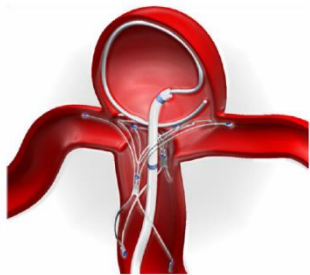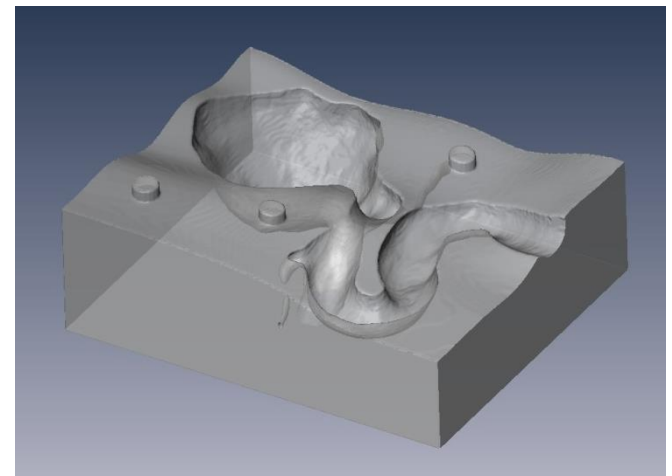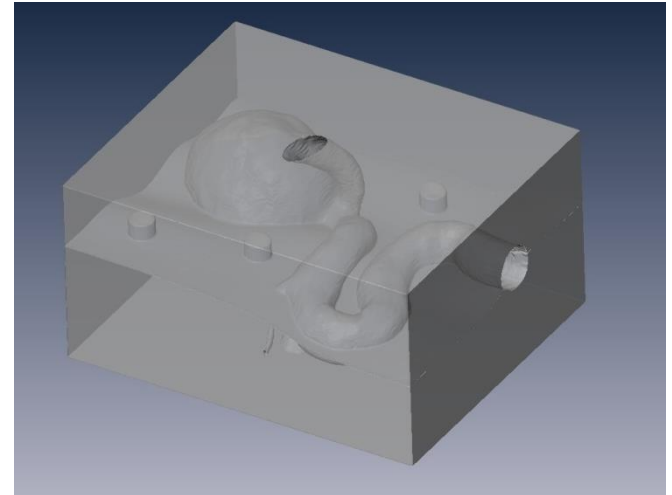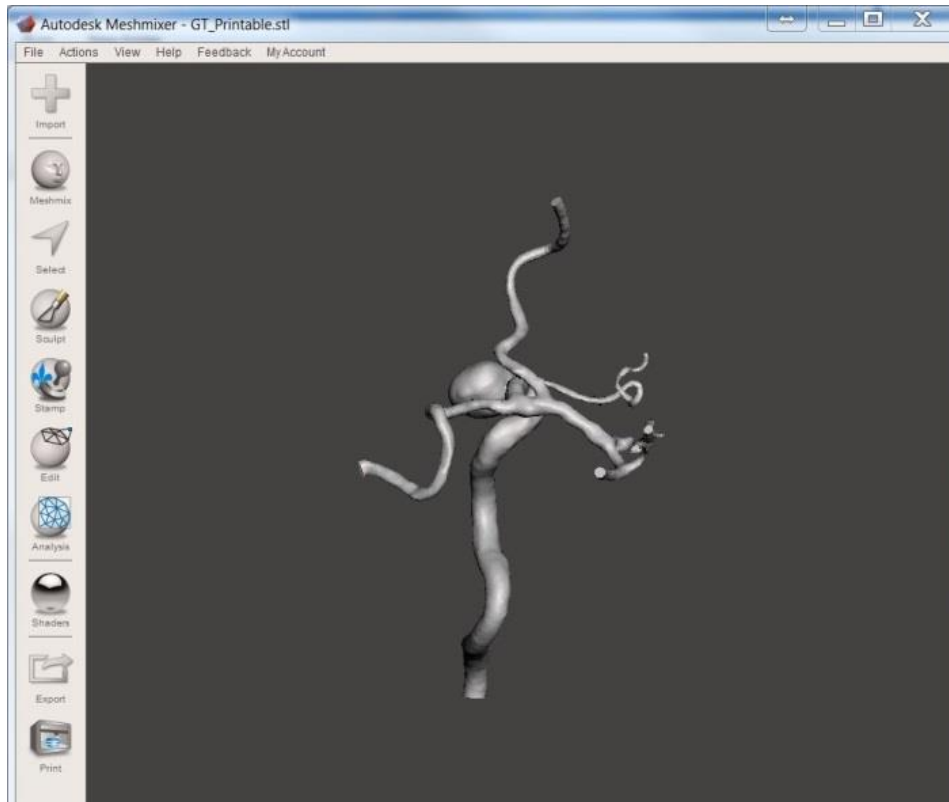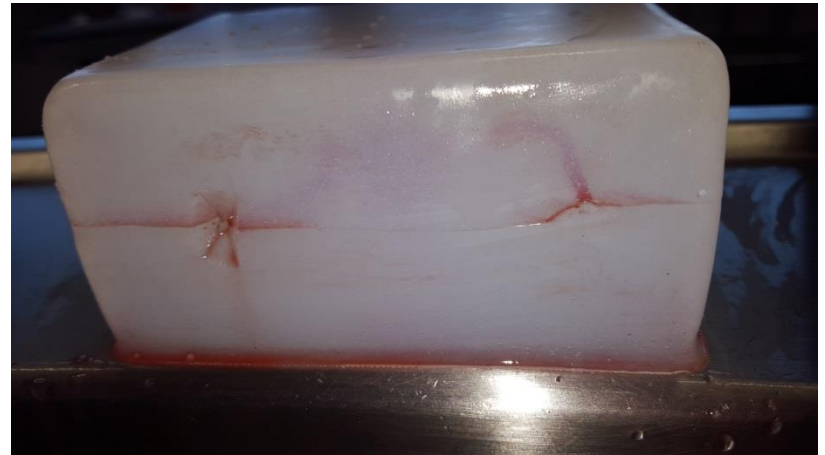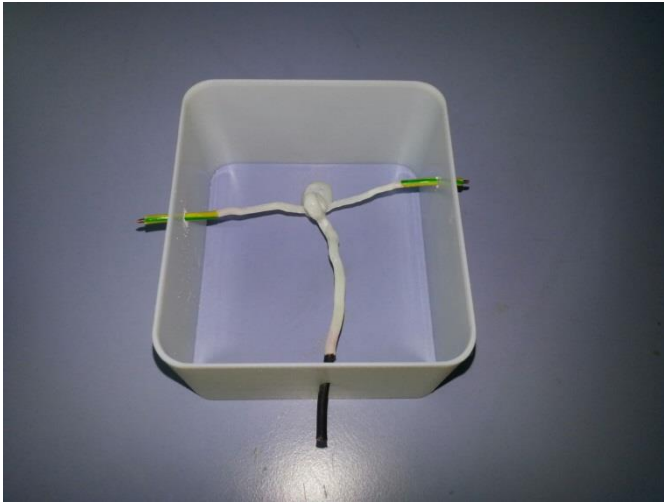

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Results

Results

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