

# Repair of damaged central venous catheters

June 26<sup>th</sup> 2018

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Radboudumc

# Disclosures

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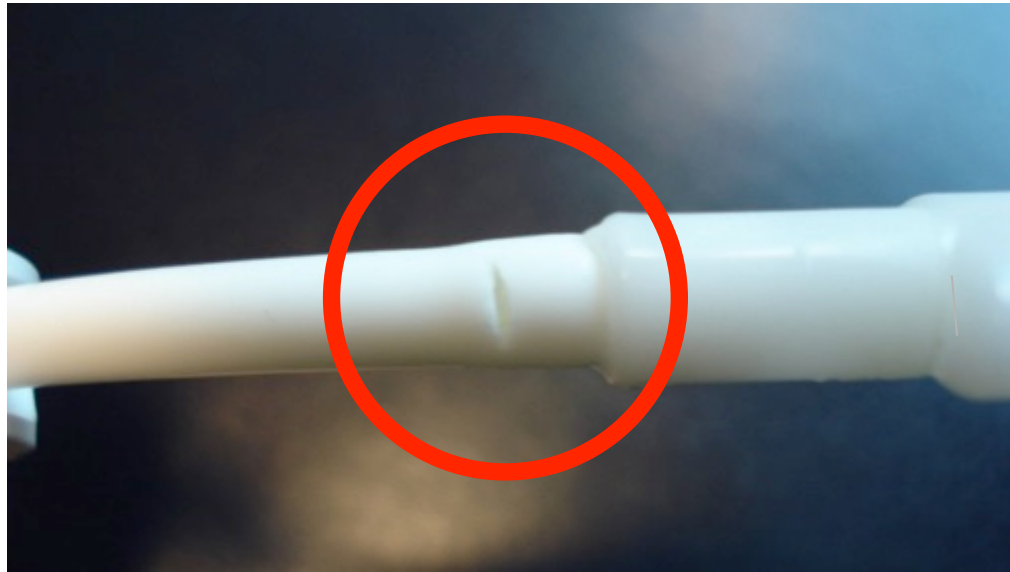
**This study was sponsored by Geistlich Pharma AG**

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# Home parenteral nutrition

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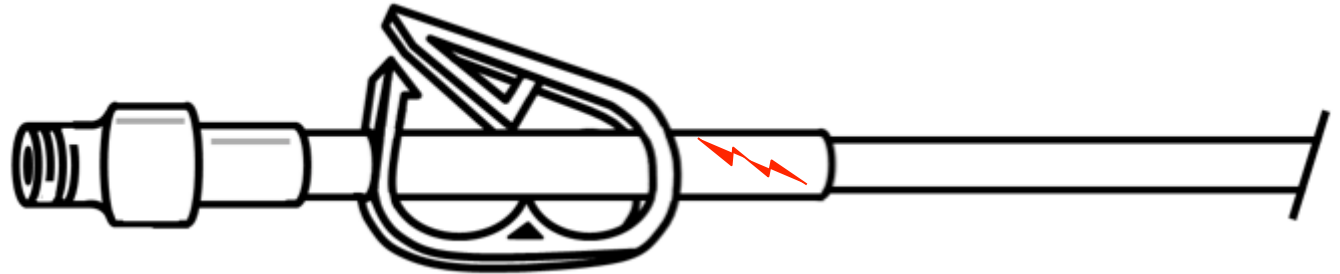
- Home parenteral nutrition:
  - Mainstay for patients with intestinal failure
- Threats to catheters:
  - Catheter sepsis
  - Occlusions of veins or catheters
- **Damage of catheters**



# Damage to catheters

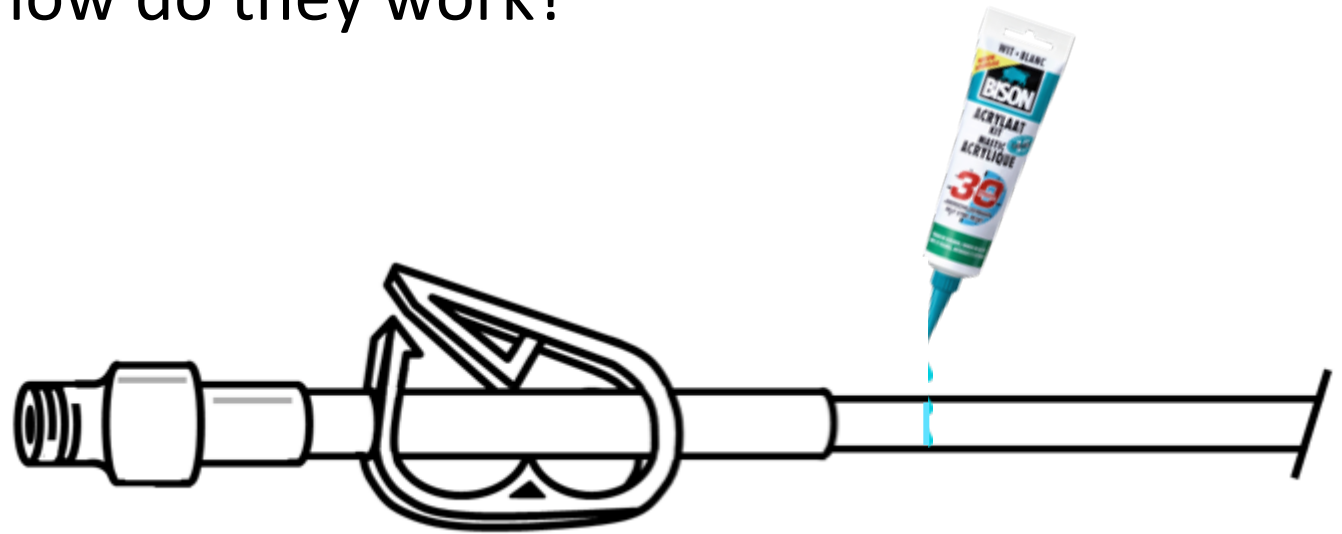
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- How often damaged?
  - Per patient, 1 damaged catheter every 10 years
- Reasons for damage:
  - Natural wear of material
  - Rupture due to flushing occluded catheters
  - Sharp objects
  - Repeated clamping maneuvers
  - Frequently bending



# Repair of damaged catheters

- Broken catheters may result in complications
- Repair prevents catheter removal
- **Repair kits:** how do they work?



**Effective? Safe?**

# Retrospective study

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- Adult intestinal failure patients
- Between 2006-2017
- All tunneled catheters (type: Hickman)

- Nijmegen, the Netherlands

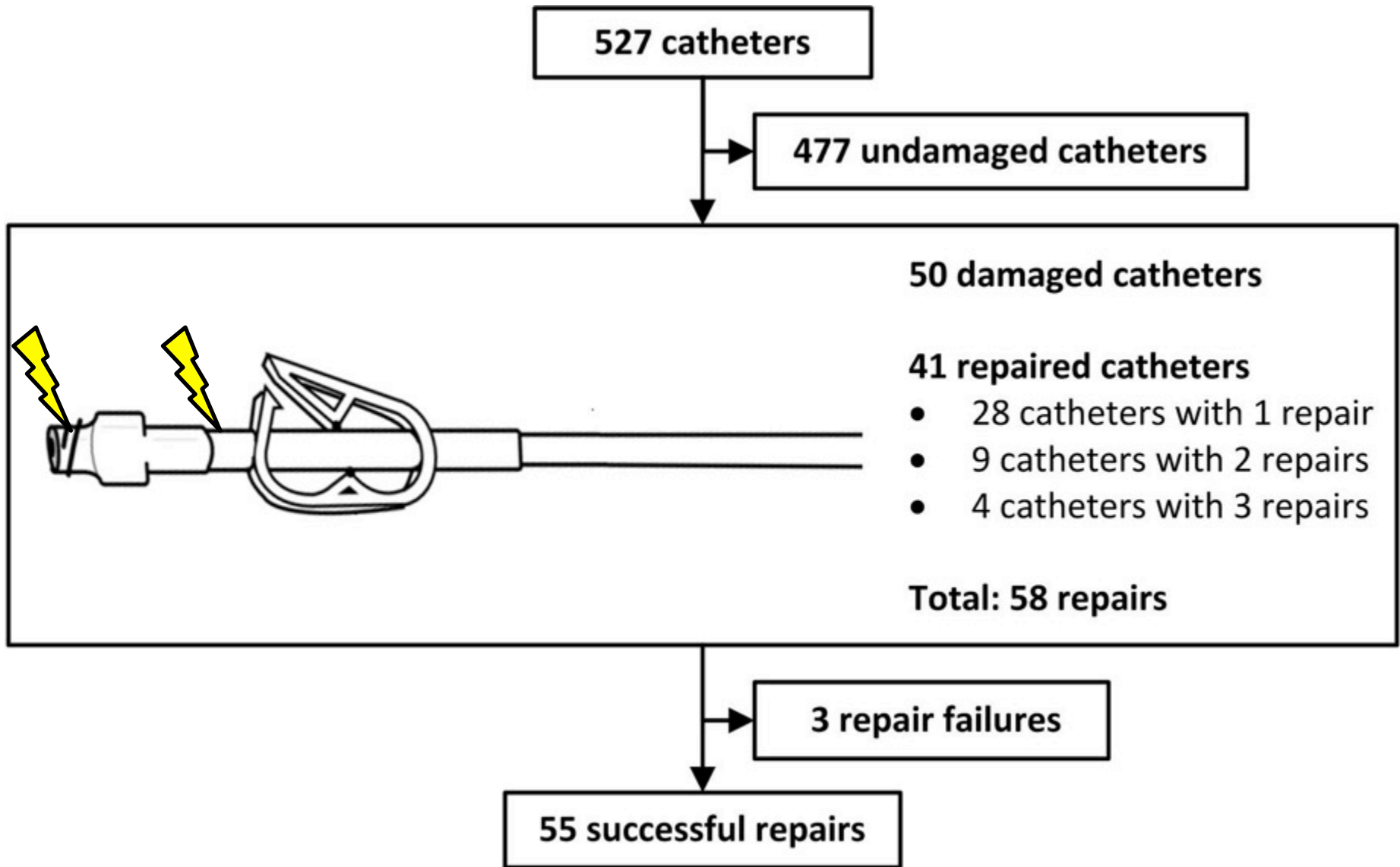


# Study outcomes

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- **Effective?**
  - Extra catheter life (in days) after a repair
- **Safe?**
  - Number of blood sepsis 30 days after a repair versus 30 days before a repair
- **Prevention?**
  - Risk factors for catheter damage

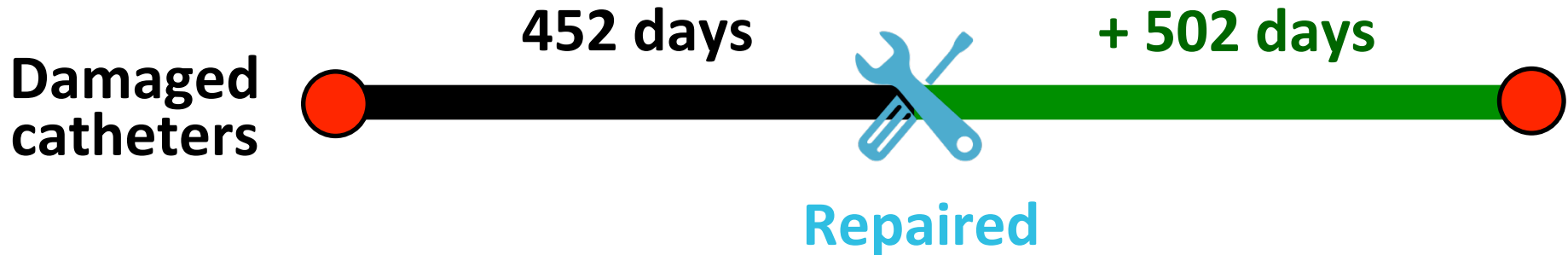
# Results





# Effectiveness of catheter repair

Time →



# Safety of catheter repair

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58 repairs

30 days BEFORE



30 days AFTER



2x blood sepsis



2x blood sepsis

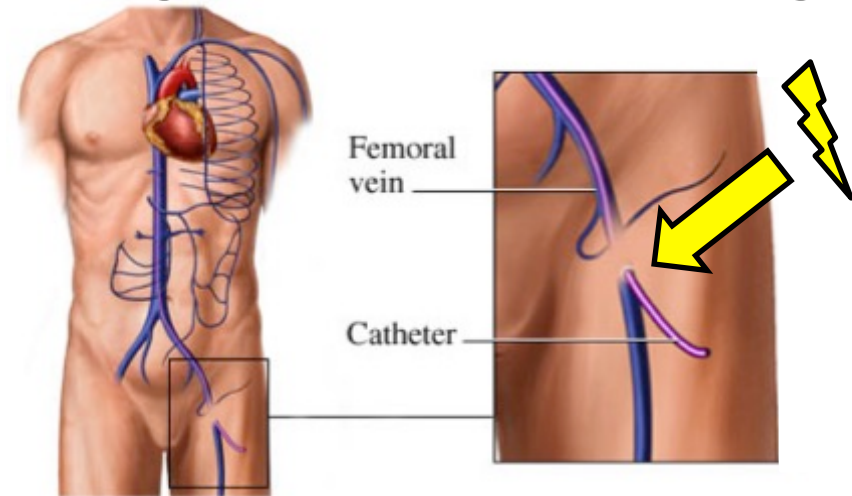
# Prevention of catheter damage

- Risk factors for catheter damage:

**A younger age of the patient**



**Having a catheter in the leg**



# Conclusions

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- Catheter life doubles after repair
- Catheter repair is safe
- Risk factors for catheter damage are:
  - A younger age
  - Having a catheter in the leg

**Take-home message:**

**If you have a damaged catheter, consider repairing it!**

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