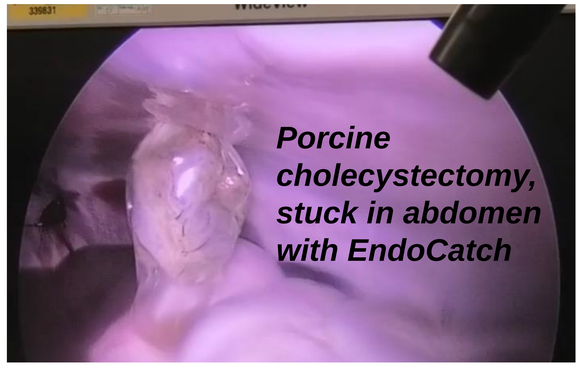
Retreva - A novel specimen retrieval bag for laparoscopic and robotic surgery

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Unmet Need:

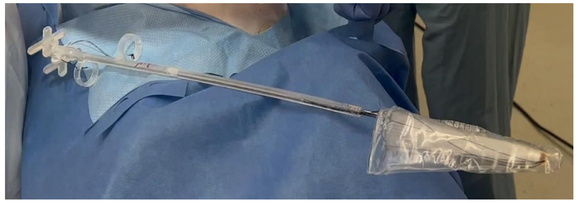
- Existing devices struggle to remove larger specimens such as inflamed **gallbladders** from port sites during laparoscopy.



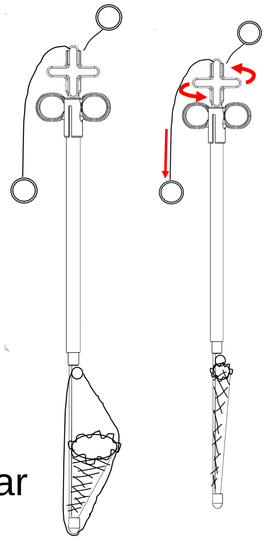
- Presents harm for the patient, difficulty for the surgeon
  - ➢ Pain and inc. hernia risk
- $126 million dollar annual market size

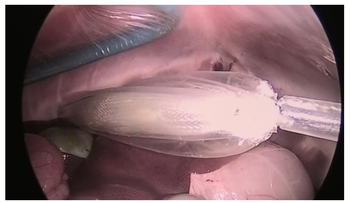
Solution:

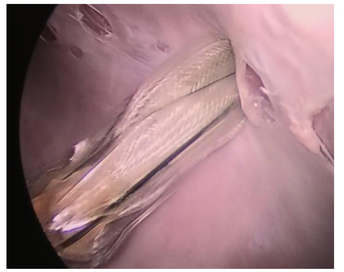
- Single use, deployable laparoscopic bag with an **activatable mesh weave** that **compresses the specimen,** after loading in the open configuration



- Inspired by a finger trap toy,
  – the harder the surgeon pulls, the easier the specimen slips out of the port







- Tourniquet crankshaft used for compression to give a mechanical advantage
- Easily usable with one hand, similar in complexity to existing devices

Results:

- Low cost, low part count, functional prototype created
- Porcine gallbladders, liver sections, and human gallbladders extracted through synthetic abdominal wall port site model demonstrated 30-50% compression in cross sectional area
- *In vivo* testing with matched human gallbladders (in porcine abdomen) were easily extractable without port dilation with Retreva compared to EndoCatch, which required significant widening of fascia and significantly more force

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