the general goal:
improving the current state of cytology and diagnosis of cholangiocarcinoma

1.9M New Cancer Cases Diagnosed

600,000 cancer deaths
gallbladder cancer affects 12,000 people in the US each year

our goal
- centered around repeatability and validity
- enhance the diagnostic yield of cytology brushes
- improve the method in which cytology brushes are tested and yield is quantified

our strategy
- explore the current state of ERCP and cytology
- interview cytologists and physicians to understand the sampling and diagnosis process
- establish a consistent quantification protocol that is:
  - easy, accessible, inexpensive, reliable
- explore brush characteristics that could impact sample collection

our findings
- established a test protocol and created a device that reliably collects repeatable data
- compared brush characteristics that impact sample quantification
- initiated future pathways for BSC cytology

annual biliary diagnoses
8,000
in the united states
survival dependent on time of diagnoses
- can go onto affect the liver
- can be caused by inflammation or blockage of the bile ducts over time
- typically does not cause symptoms in the early stages
- often is metastatic at the time of diagnosis, which means the cancer has already spread to other parts of the body

current primary diagnosis method

ERCP
endoscopic retrograde cholangiopancreatography
- minimally invasive
- use of endoscope & x-ray to guide a brush to the bile duct
- brush swabs the hypothesized cancerous stricture region for a pathologist’s diagnosis

Failures of ERCP
- high level of false negatives
- failure for specificity
- unable to collect enough cells for a thorough diagnosis

The Ideal Sample
- sensitive and specific while being relatively simple technically and cost effective.