# Technical Tips for Bile Duct Access

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# Devises and Equipment for Cannulation

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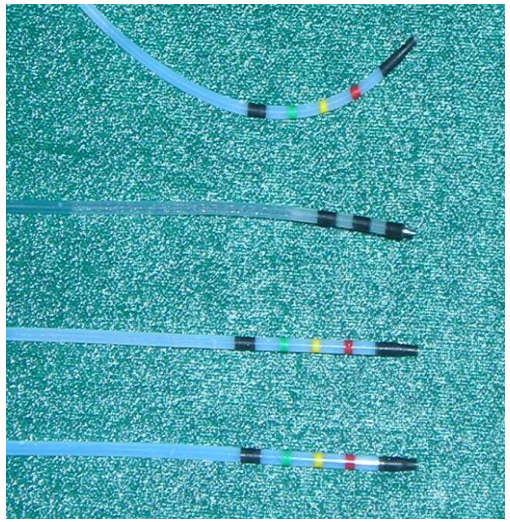
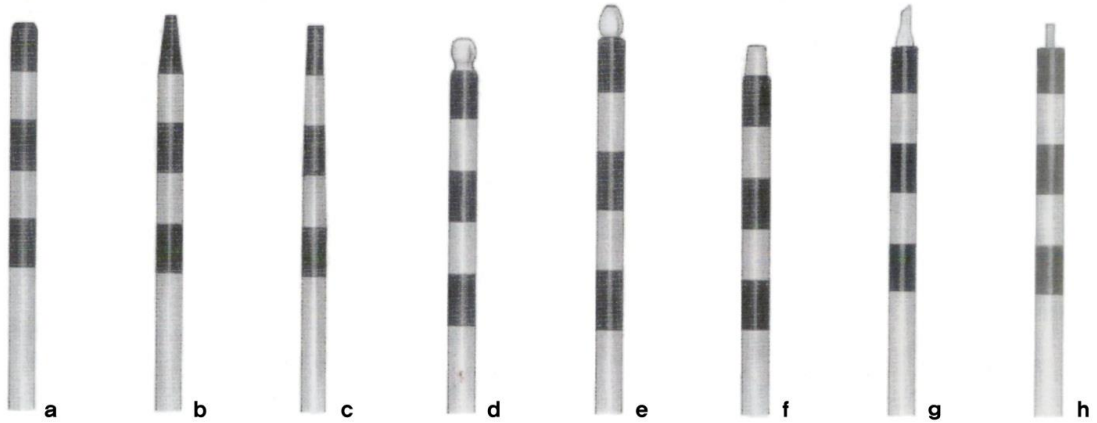
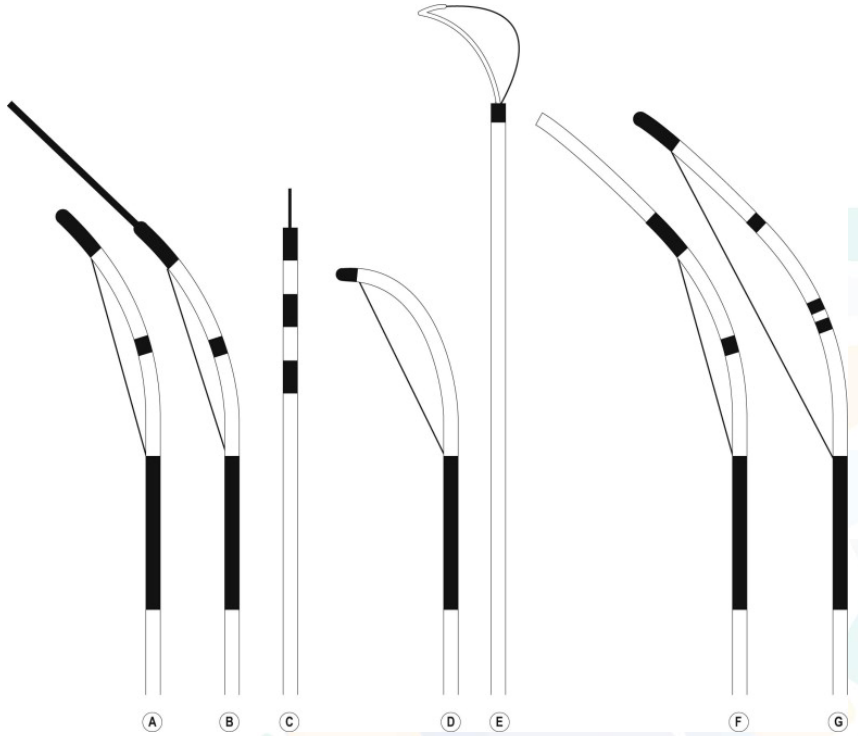
- Cannulation Catheters





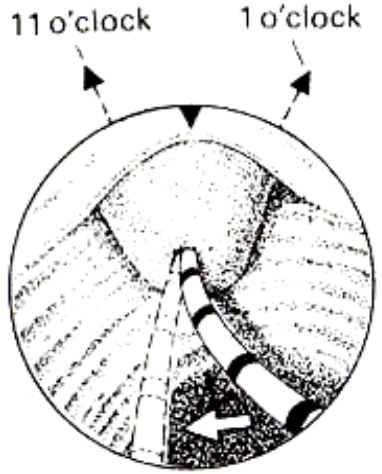

- Sphincterotomes

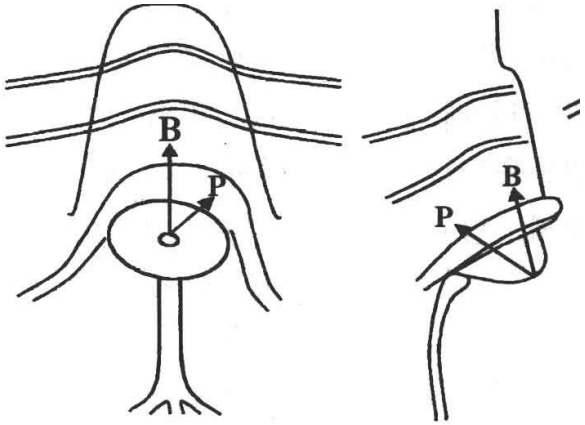


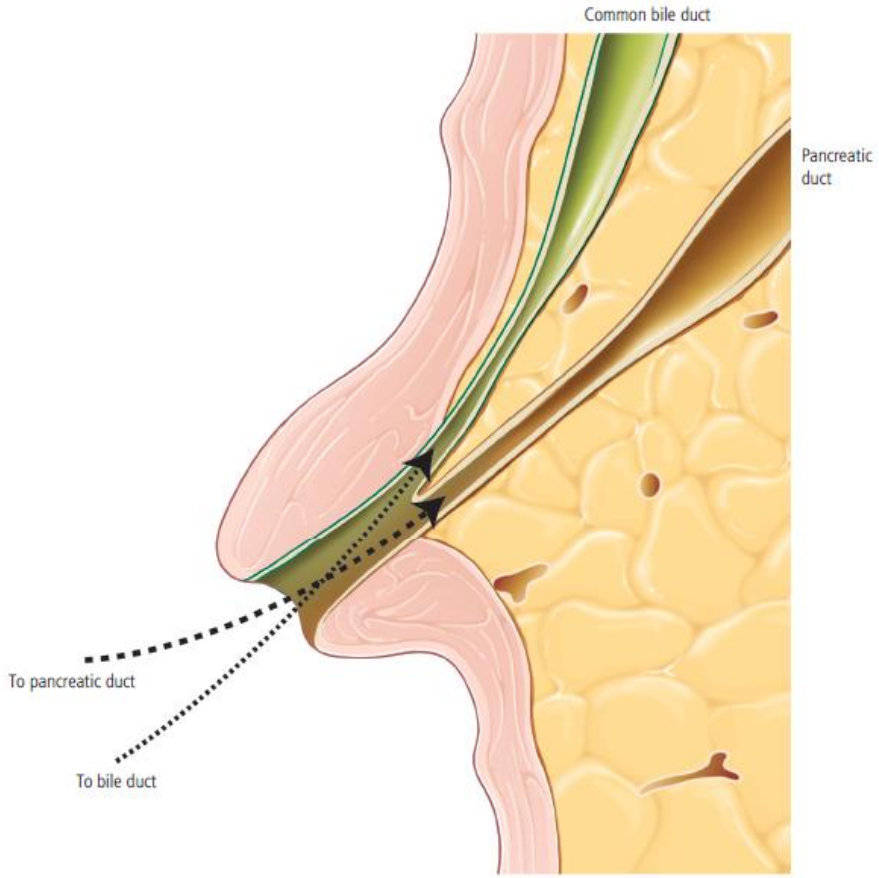

(A) Double-lumen sphincterotome
(B) Triple lumen sphincterotome
(C) Needle-knife sphincterotome with a retractable wire or blade
(D) Tapered tip (5 mm tip) sometimes used if the papilla is stenotic or to cannulate the minor papilla
(E) Push-type sphincterotome
(F) Sphincterotome with a long tip nose
(G) Sphincterotomes with long cutting wires

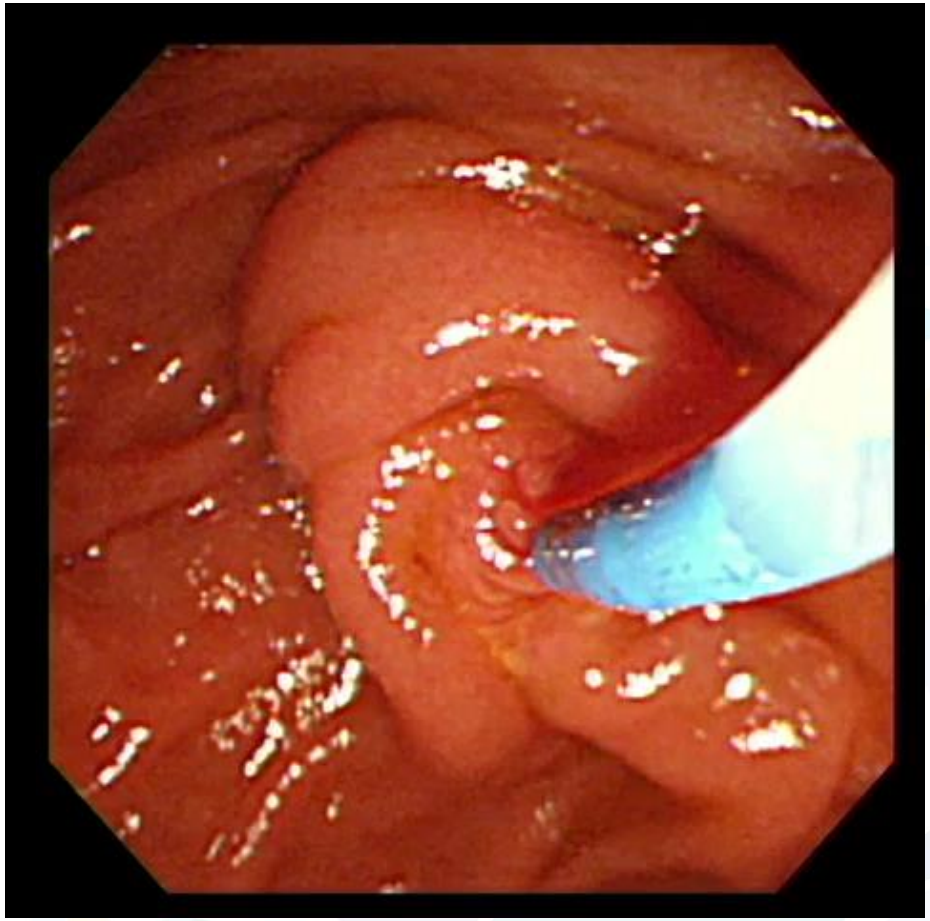
# Cannulation Technique

- Basic Technique



# Cannulation Technique

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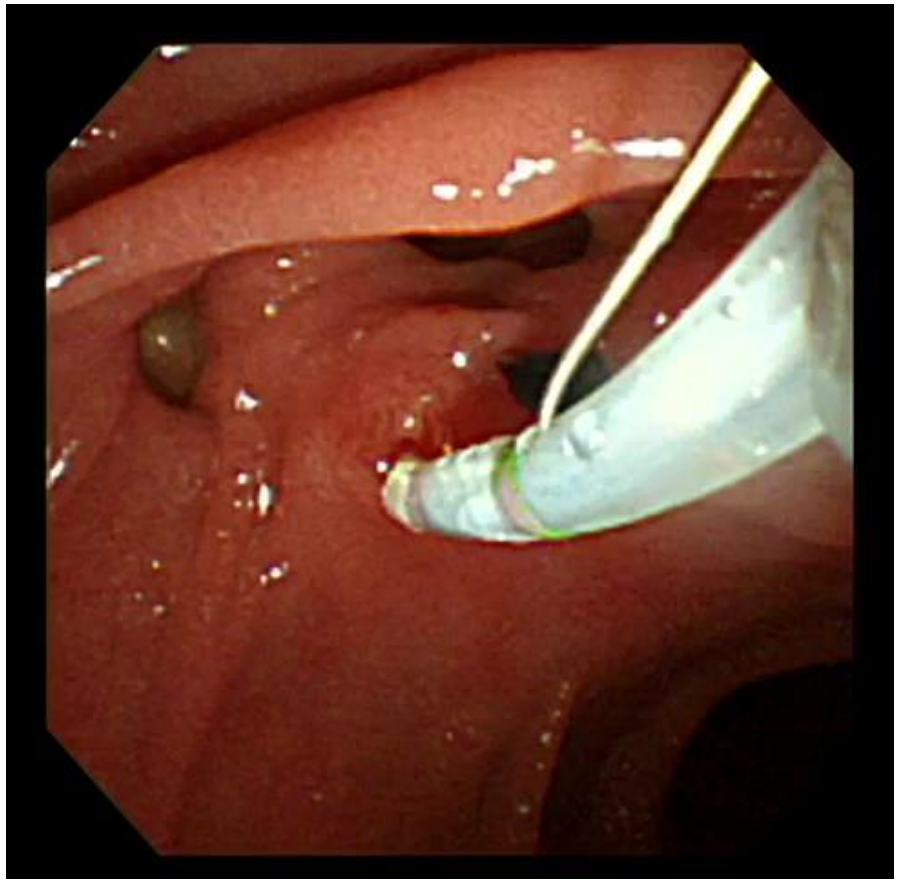
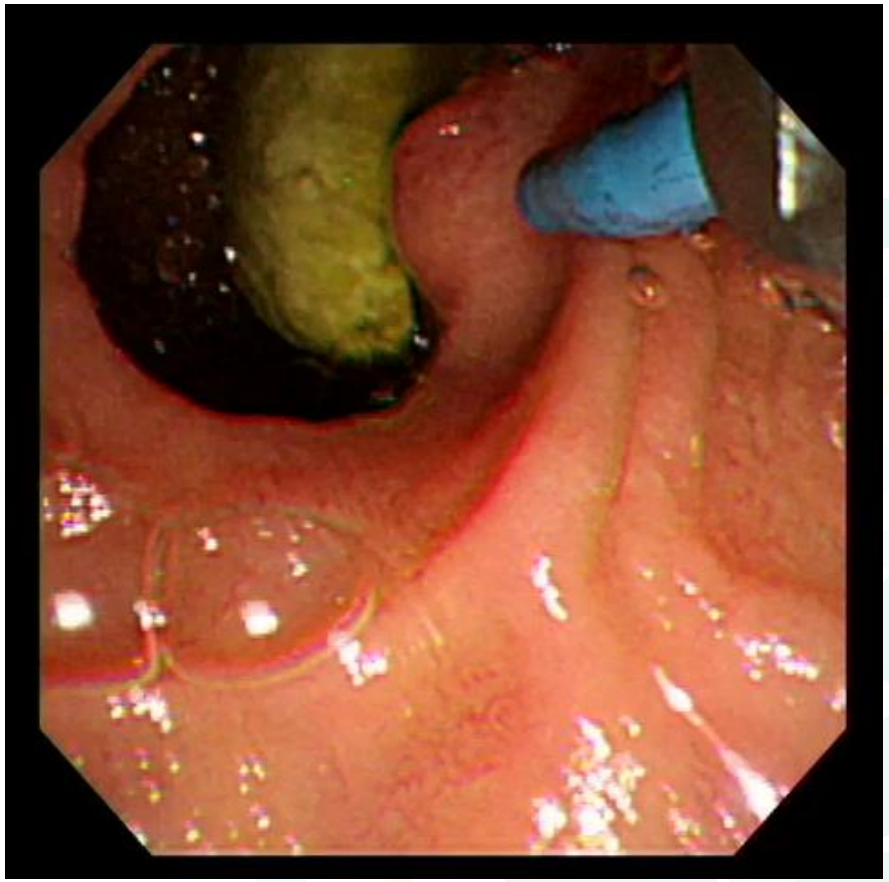
- Patients with periampullary diverticulum

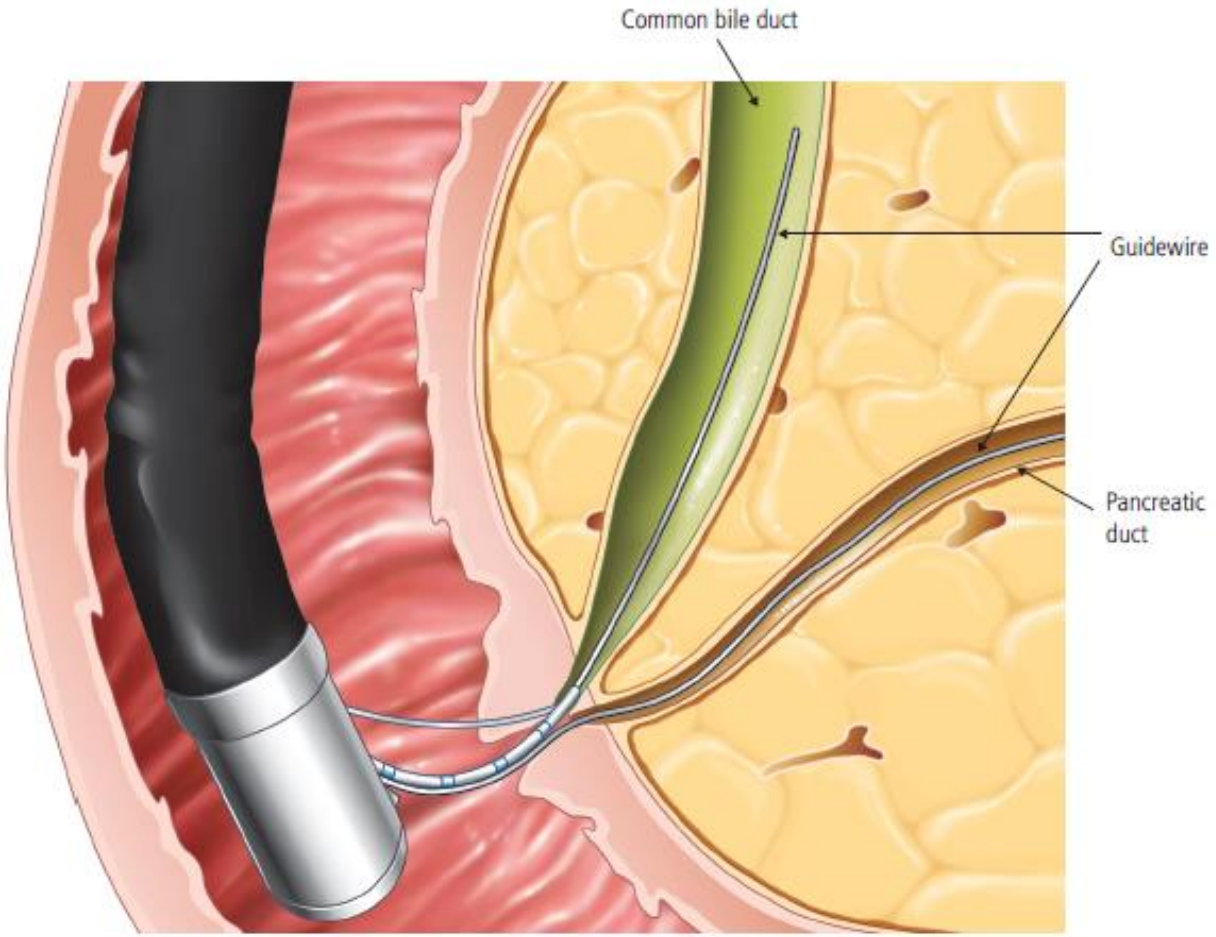




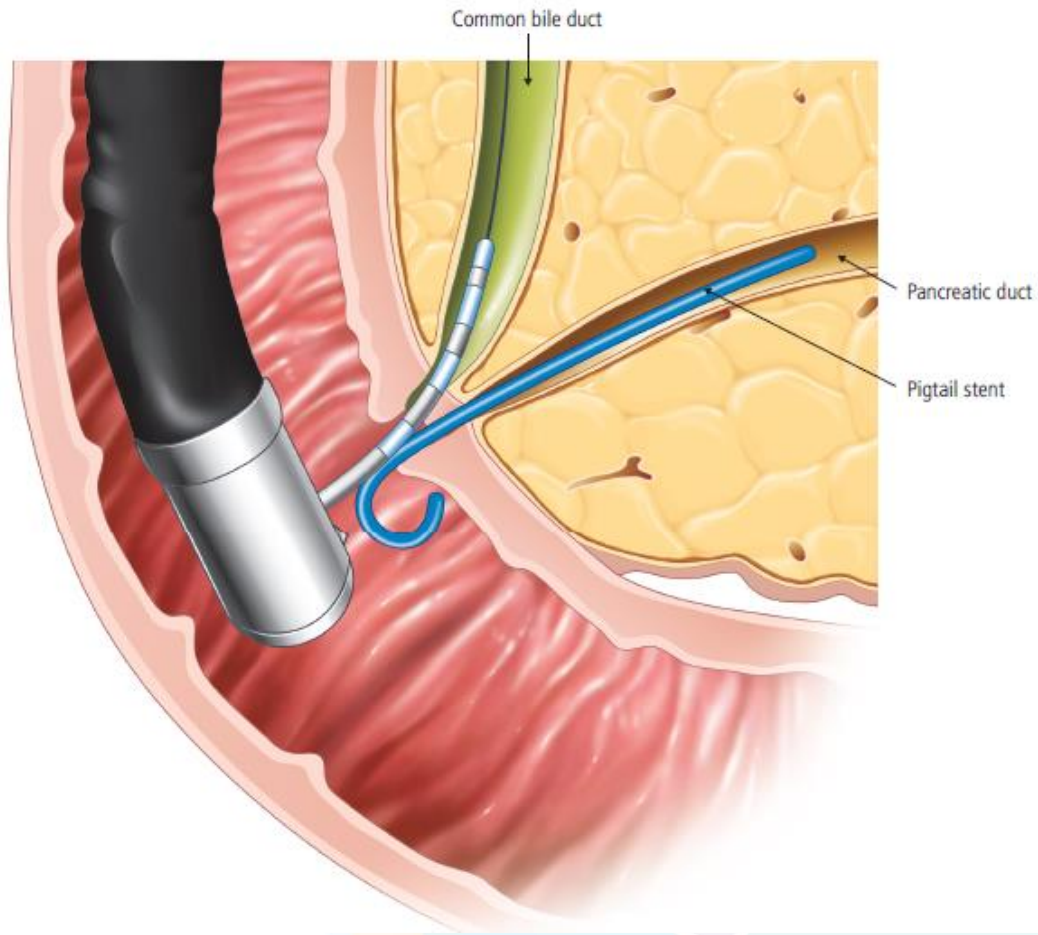
- Present in about 10% to 20% of patients undergoing ERCP
- Cut in the direction of the bile duct with biliary guidewire in place
- Inflated-balloon-pulling technique: method for estimating the safe upper margin and the proper direction of EST

# Difficult Cannulation (1)

- Double-guidewire technique



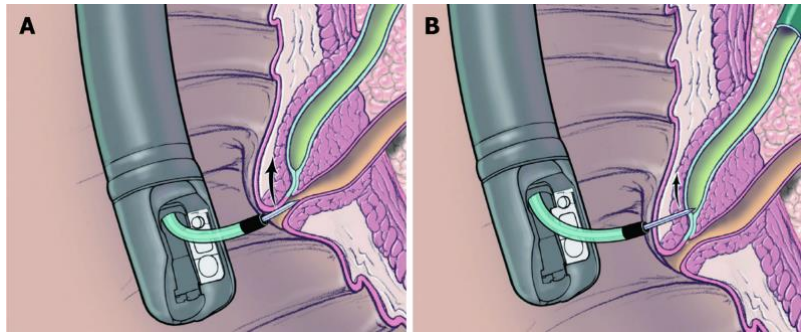

- Stent-in-pancreatic duct technique

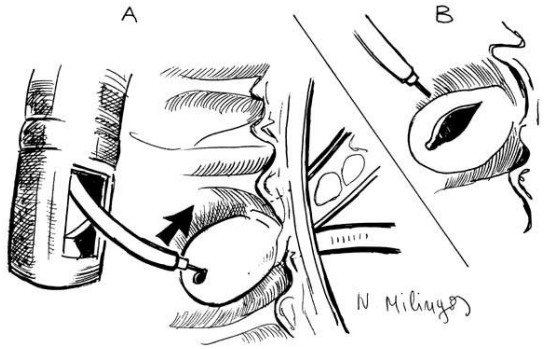


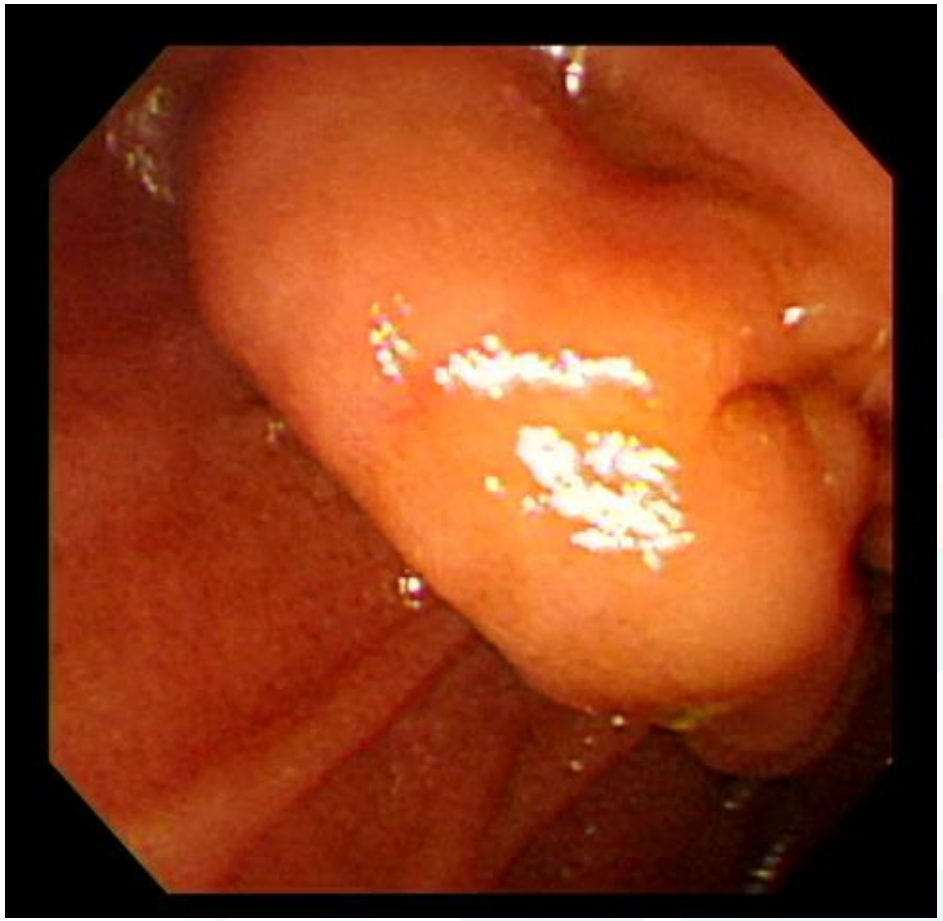
# Difficult Cannulation (2)

- Precut from the orifice (Free-hand)

- Incision made from the orifice and extended upward to the roof of the papilla
- Direction of the cut
  - The most critical point that determines its success
  - Controlled either by the elevator, up-and-down knob or the scope itself



# Difficult Cannulation (2)

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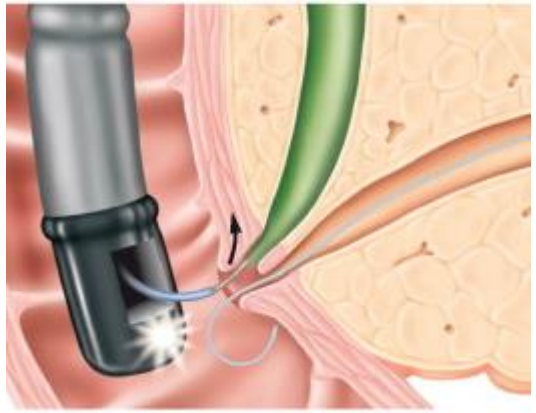
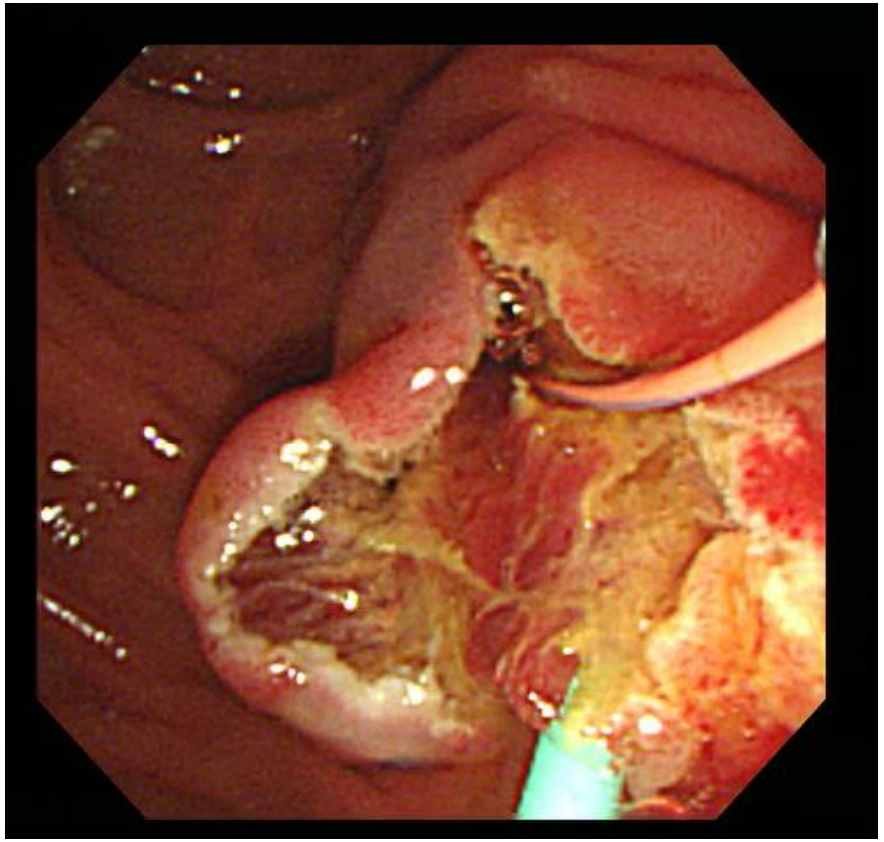
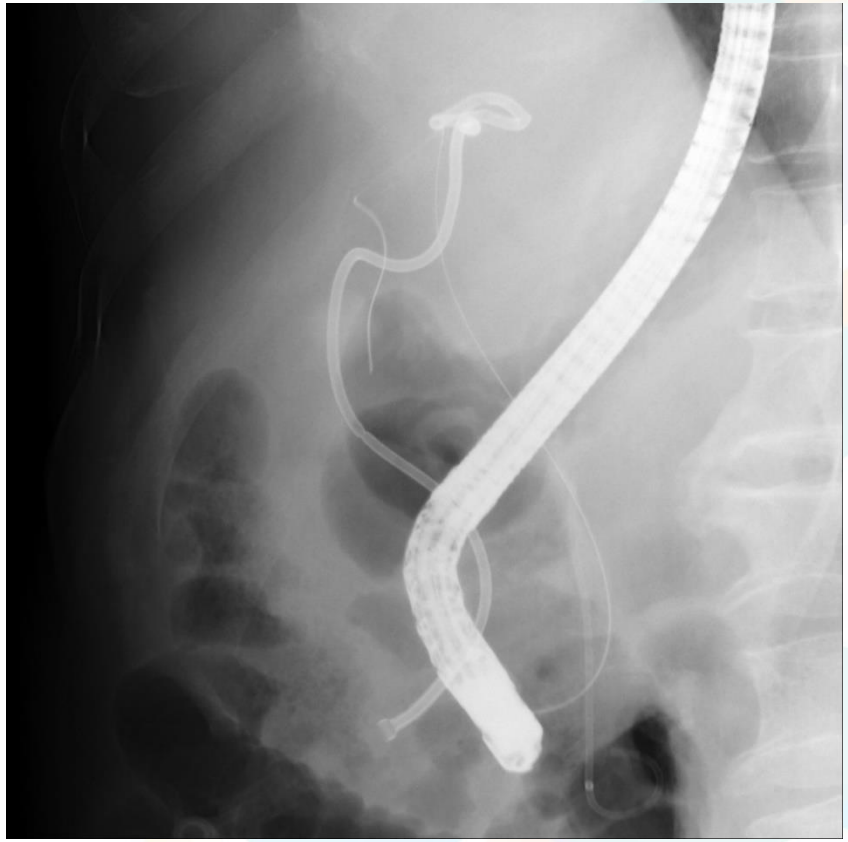
- Precut from the orifice

  (Precut over plastic stent)
  - Precut from the orifice can be performed after placing a plastic stent in the pancreatic duct
  - Ensures pancreatic drainage and helpful with anatomic guidance to the bile duct







# Difficult Cannulation (3)

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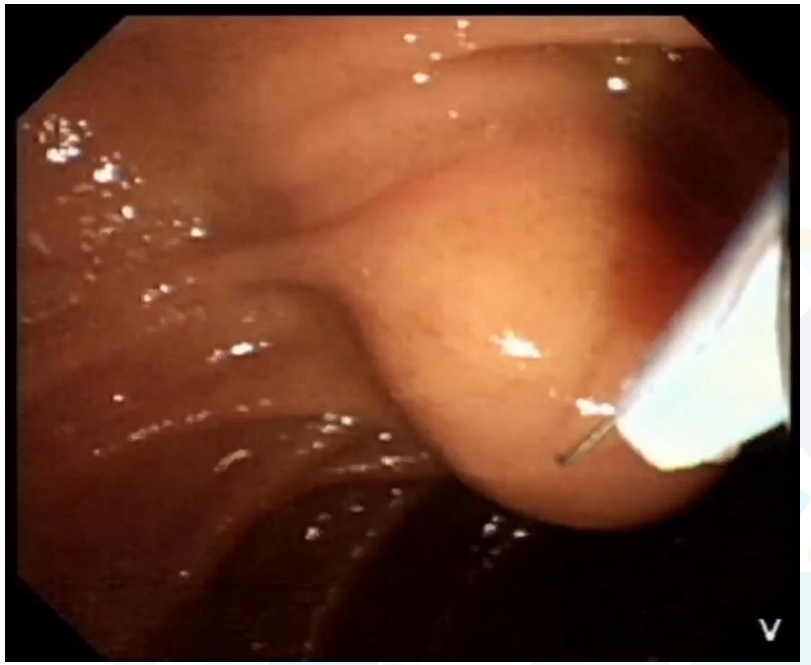
- Suprapapillary fistulotomy (= Infundibulotomy)



- Performed with needle-knife
  - Anatomy of the papilla
  - Location of the initial incision point
  - Preference of the endoscopist

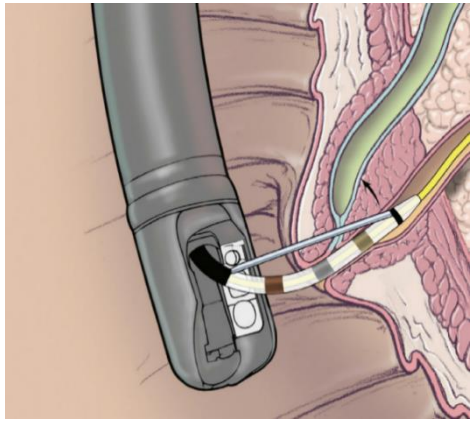
- Direction
  - Upward (cutting away from the papilla)

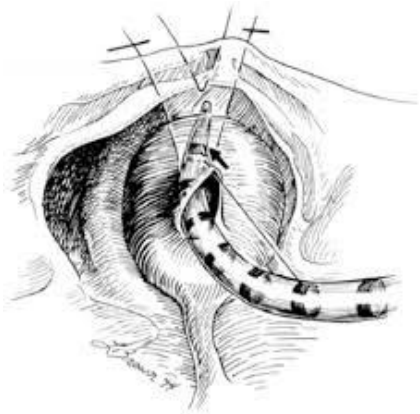
    : Begin at about 2mm above the ampullary orifice and extend towards the transverse fold
  - Downward (cutting toward the papilla)

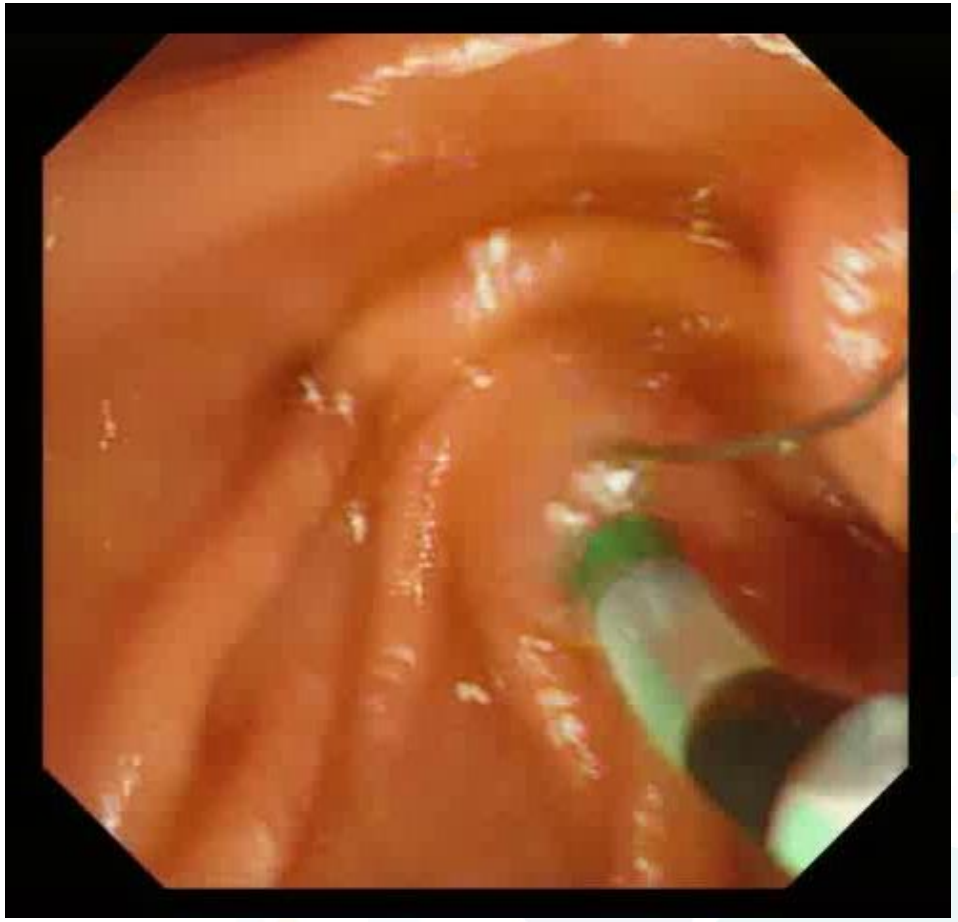
    : Initial entry point is usually just below the transverse fold at the 11 to 12 O'clock position and the cut extended downward up to the point just short of the papillary orifice

# Difficult Cannulation (4)

- Transpancreatic precut sphincterotomy







## Method

→ Place standard traction sphincterotome in the pancreatic orifice, most often over a guidewire

→ Make progressive small cuts toward the 11 to 12 O'clock position to unroof the common channel between the pancreatic duct and bile duct

→ Placing a small-caliber (3Fr or 5Fr) plastic stent in the pancreatic duct to prevent post-ERCP pancreatitis after the procedure recommended

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