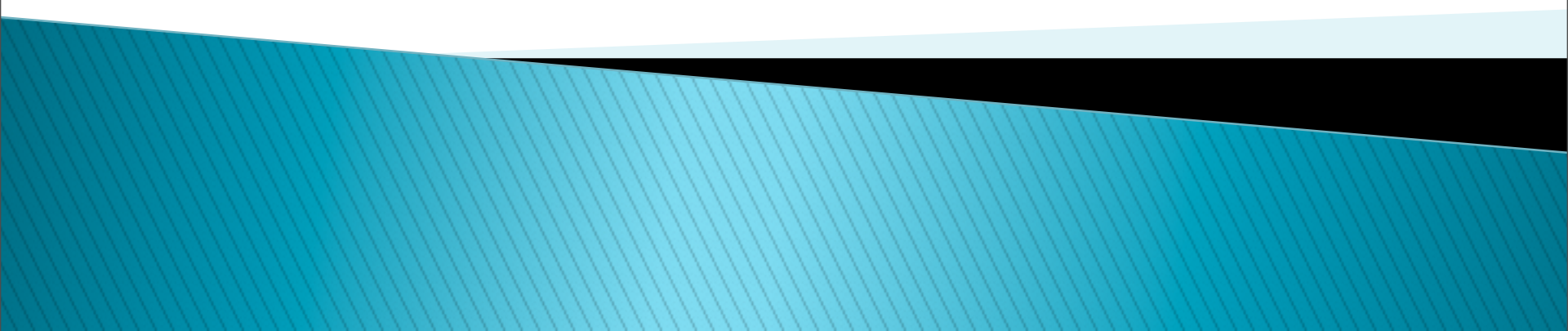


# **Prepped for ERCP by:**

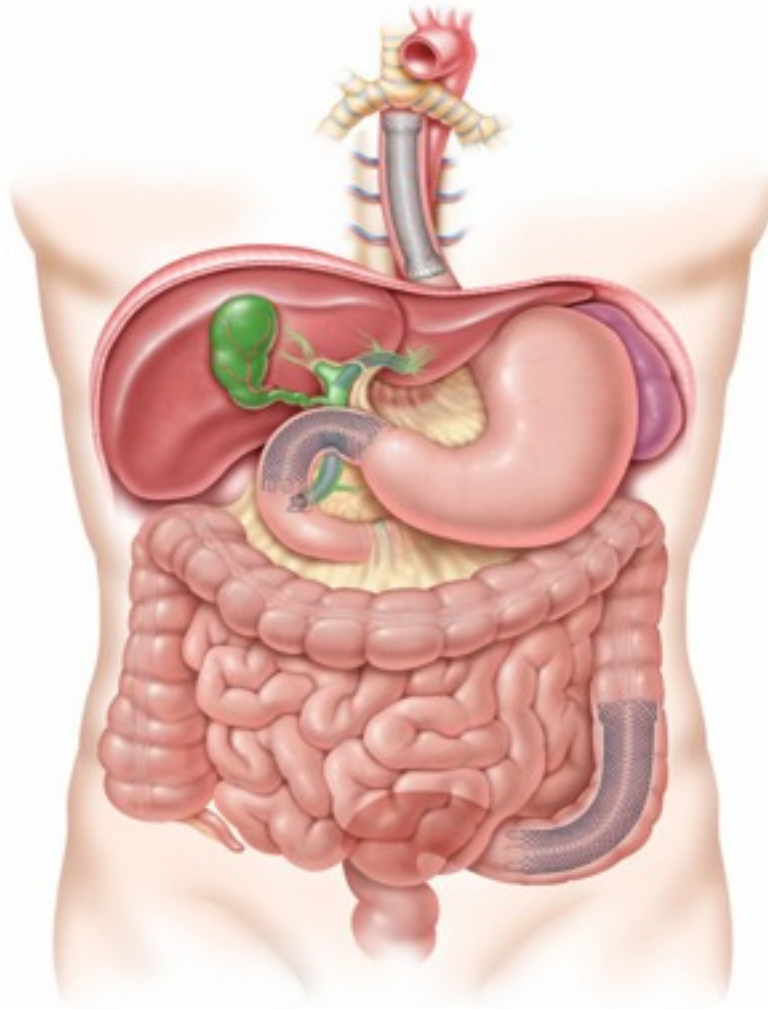
**Aline Moore MSN, RN, CGRN**



# Objectives:

1. Identify two evaluation and imaging modalities for diagnosing pancreatic and biliary disease
2. List three key points necessary for radiation safety
3. Develop a nursing care plan for ERCP patient

# Normal Biliary Anatomy



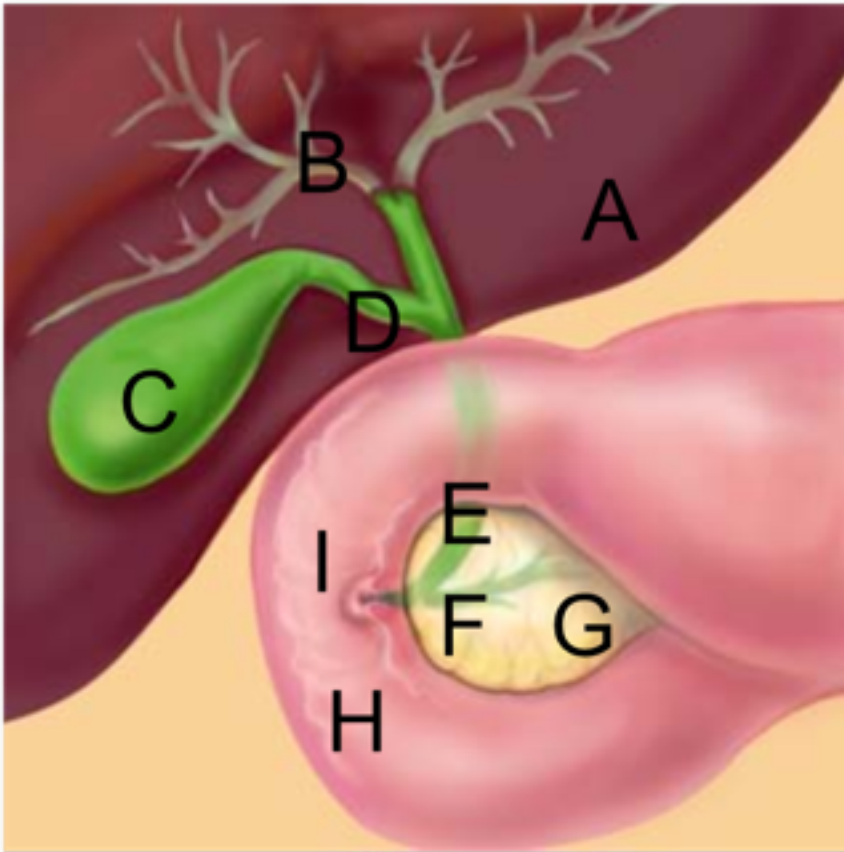
# Indications For ERCP

- ▶ Jaundice
- ▶ Suspected Biliary obstruction (stricture, calculi, tumor, sclerosing cholangitis, papillary stenosis)  
Elevated LFTs
- ▶ Pancreatitis
- ▶ Biliary or pancreatic stent placement
- ▶ Abdominal pain of suspected biliary or pancreatic origin
- ▶ Pancreatic duct (PD) obstruction
- ▶ Biliary stones
- ▶ Fistula of the pancreatic or bile ducts
- ▶ Post surgical bile leak

# Contraindications for ERCP

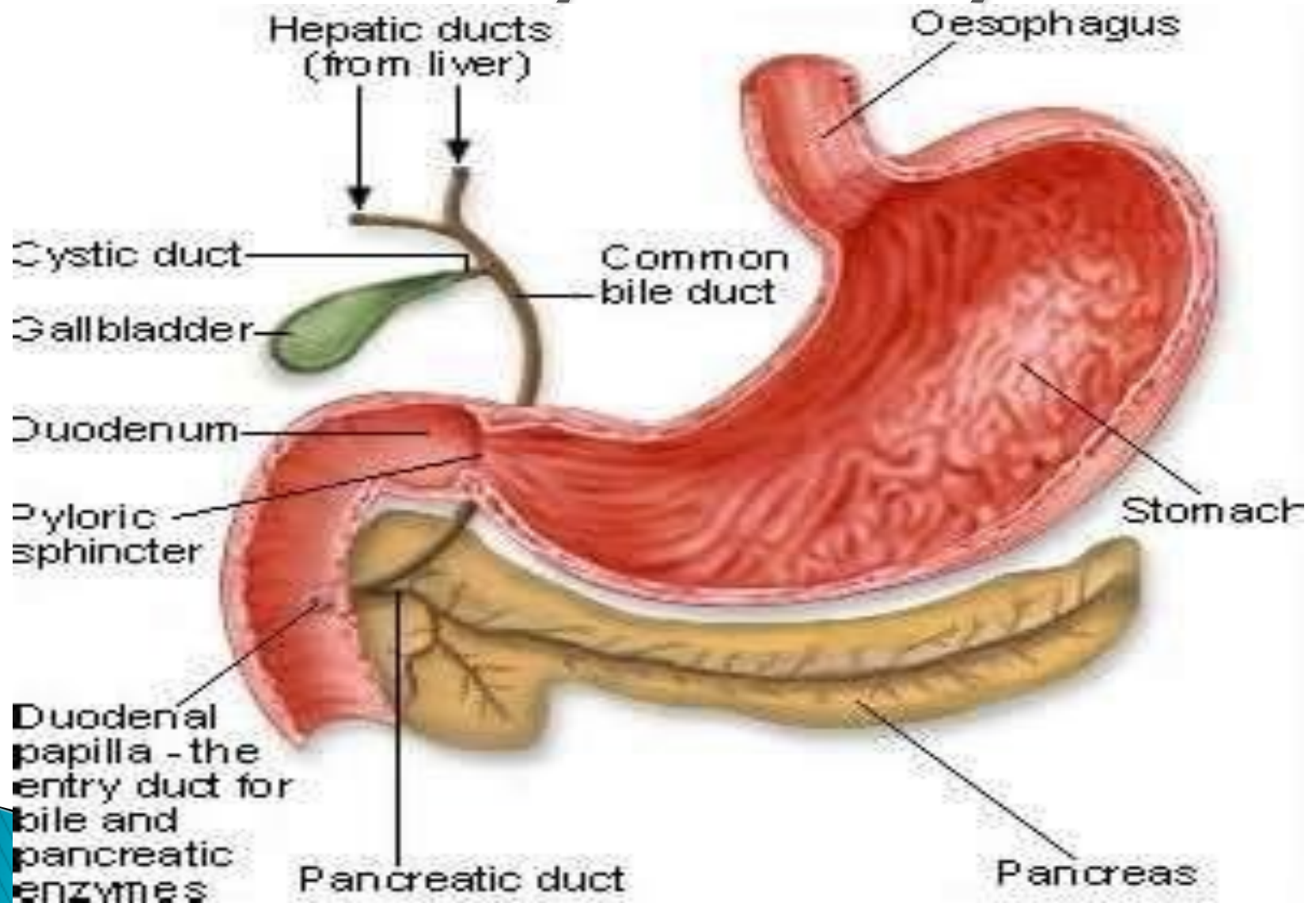
- ▶ Uncooperative Patient
- ▶ Patient physically unable to tolerate procedure
- ▶ Recent Myocardial Infarction (MI)
- ▶ Non-compliant with NPO guidelines
- ▶ Coagulopathy
- ▶ Presence of barium or contrast in GI tract

# Normal Biliary Anatomy



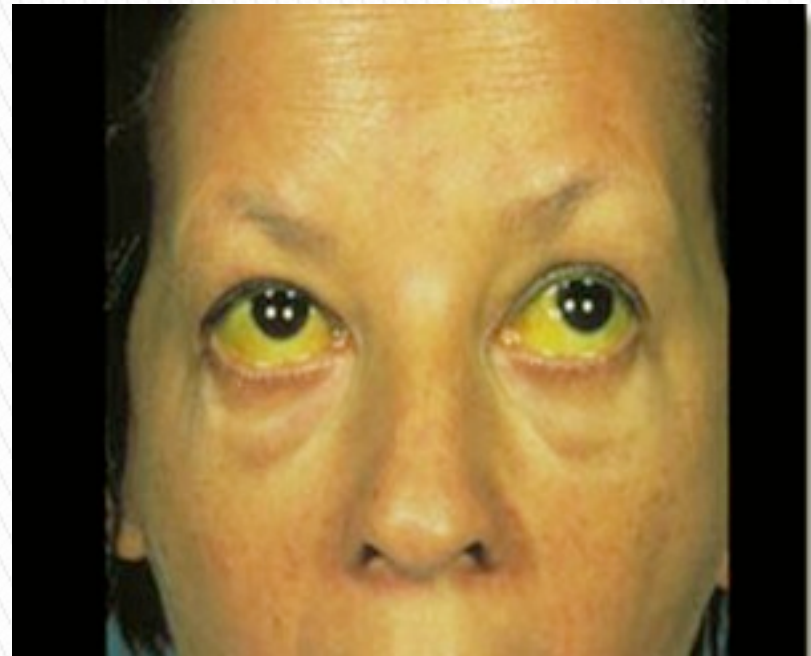
- ▶ A–Liver
- ▶ B–Hepatic Ducts
- ▶ C–Gallbladder
- ▶ D–Cystic Duct
- ▶ E–Common Bile Duct
- ▶ F–Pancreatic Duct
- ▶ G–Pancreas
- ▶ H–Duodenum
- ▶ I–Papilla

# Normal Biliary Anatomy





# Jaundiced Patients



<http://www.google.com/imgres?imgurl=http://bbsimg.ngfiles.com/1/22845000/ngbbs4de33e3e41bcf.jpg&imgrefurl=http://www.newgrounds.com/bbs/topic/1223426&h=600>



# Assessment and Diagnosis:

## Blood tests

- ▶ PT/INR, PTT, CBC, CMP, liver panel, amylase and lipase
- ▶
- ▶ CA 19 – 9 (To help differentiate between cancer of the pancreas and other conditions, such as pancreatitis)
- ▶ Liver Panel includes:
  - ▶ ALP
  - ▶ AST – SGOT
  - ▶ ALT – SGPT
  - ▶ Tbil – (total bilirubin)
  - ▶ Bild – (direct bilirubin)
  - ▶ Albumin

# Imaging and Diagnostic Modalities

- ▶ CT Scan
- ▶ Magnetic Resonance Cholangiopancreatography (MRCP)
- ▶ Endoscopic Ultrasound (EUS)
- ▶ Endoscopic Retrograde Cholangiopancreatography (ERCP)



# Computed Tomography (CT) Scan

- ▶ Radiologic Scan
- ▶ Requires use of contrast media given oral and or IV

Generally used to assess:

- ▶ Overall structural assessment of the liver and pancreas
- ▶ Provides imaging and staging information on biliary and pancreatic tumors, abnormalities
- ▶ Ability to assess severity of acute pancreatitis
- ▶ Does not offer any therapeutic capabilities

# Computed Tomography (CT) Scan

- ▶ Cross sectional view of anatomy
- ▶ Horizontal slices of anatomy are looked at as individual images
- ▶ Provides good detail

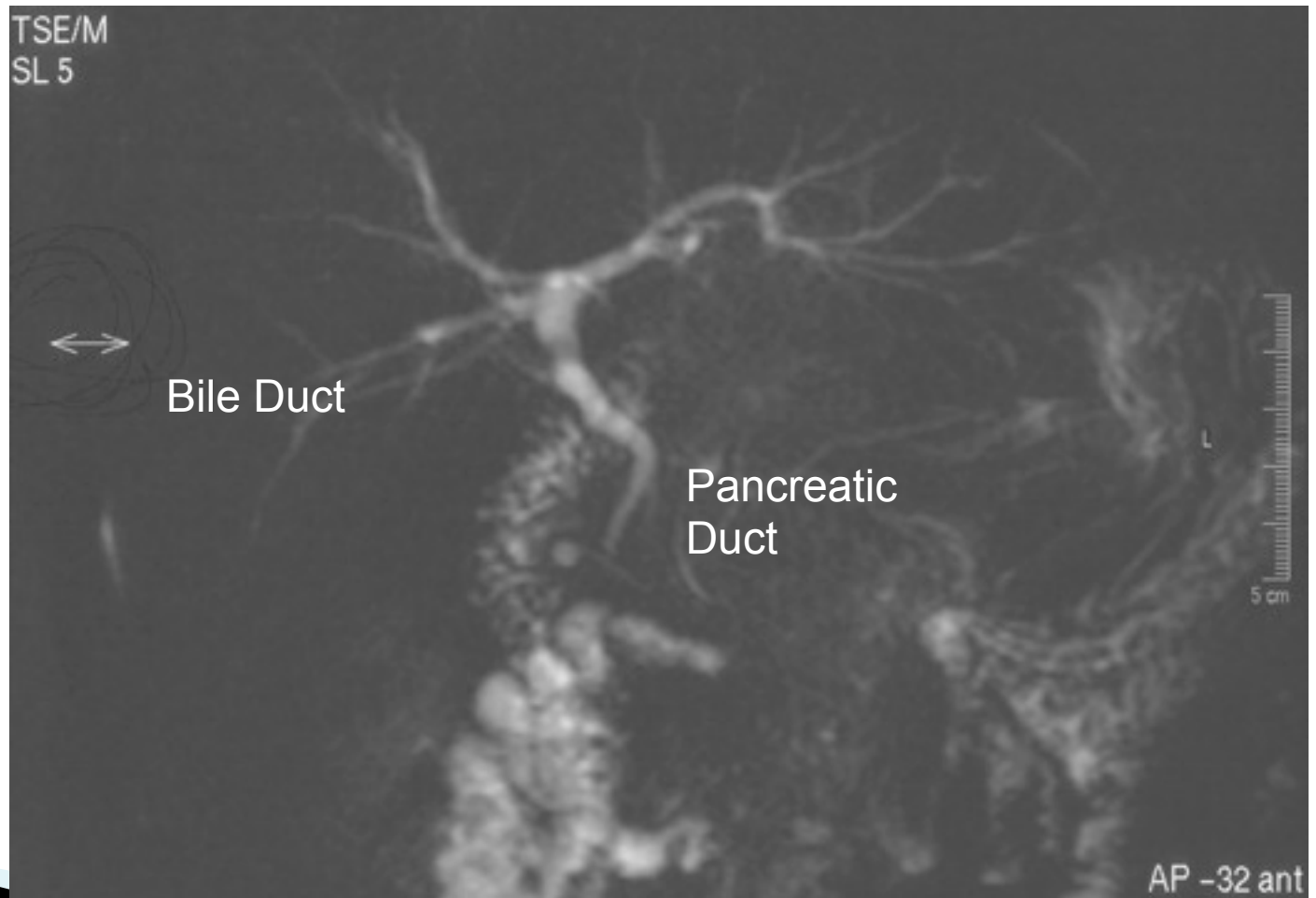


# Magnetic Resonance Cholangiopancreatography

- ▶ Well established tool for evaluating the biliary tree, pancreatic ducts and gallbladder
- ▶ Noninvasive radiologic technique
  - Cross sectional, whole-body imaging
  - Does not require contrast or ionizing radiation
  - Allows for accurate depiction of fluid filled spaces
- ▶ Usually well tolerated by patients
  - A. Remember to ask if patient has any implanted metal devices
  - B. Has claustrophobia
- ▶ Diagnostic accuracy approaches that of ERCP
- ▶ Avoids invasive procedure risks of ERCP
- ▶ No therapeutic capabilities

# MRCP Clinical Image

## Biliary, Intrahepatic and Pancreatic





# Endoscopic Ultrasound (EUS)

- ▶ Allows the endoscopic placement of ultrasound probes within the GI tract
- ▶ Both imaging and diagnostic
- ▶ Radial – 360 degree sector scan
- ▶ Linear – 100 degree angle of view coupled with the ability to introduce a needle using ultrasound guidance to perform fine needle aspiration (FNA)



# Endoscopic Ultrasound (EUS)

- ▶ Procedure combines endoscopy with ultrasound
- ▶ Provides high resolution imaging of Liver, CBD and pancreas
- ▶ Typically used for:
  - Staging of pancreatic tumors, detection of bile duct stones, aspiration of cysts



# Endoscopic Retrograde Pancreatography (ERCP)

- ▶ Indicated for evaluation and treatment of benign and malignant strictures
- ▶ Diagnostic and therapeutic
- ▶ Combined use of:
  - ▶ Side-viewing duodenoscope with instrument channel
  - ▶ Fluoroscopic monitoring using contrast media
  - ▶ Locate stricture site and visually inspect for malignancy
  - ▶ Cytology brush, biopsy forceps or fine needle aspiration may be used to obtain tissue sample



# Care of Patient Undergoing ERCP

- ▶ Why is patient having the ERCP
- ▶ What are the patient's symptoms
- ▶ Age of patient (child bearing years)
- ▶ What are the patient's symptoms
- ▶ Include family, friends, significant other
- ▶ What medication is patient currently taking
- ▶ Need for labs, medication pre and post procedure
- ▶ Sedation during ERCP

# PRE ERCP Care of Patient

- ▶ NPO by midnight eve of procedure
- ▶ No aspirin or NSAIDS one week before
- ▶ Is patient taking any antiplatelet or anticoagulant agents
- ▶ Explain procedure to patient and family
- ▶ Offer written information that is geared for the patient/family
- ▶ Obtain consent

# Pre-Procedure care

- ▶ Assessment of patient (is their abdomen distended, do they have sleep apnea, no neck syndrome, limited neck rotation)
- ▶ Allergies
- ▶ Check PT/INR results
- ▶ Changes in LFT's
- ▶ Be informed of what meds patient is taking, i.e.. stopped anticoagulants
- ▶ Verify preprocedure orders, necessary meds (antibiotics, emergency meds)
- ▶ Oxygen tank on cart
- ▶ **DON'T BE AFRAID TO SPEAK UP ABOUT YOUR CONCERNS FOR PATIENT SAFETY**



# Intra-Procedure Care

- ▶ Nurse/Tech prepares ERCP scope and suction equipment
- ▶ Nurse/Tech monitors and protects pt. airway during ERCP
- ▶ Nurse monitors vital signs, sedates and documents
- ▶ Grounding pad, cautery paddle
- ▶ Nurse/Tech prepares cannulation catheter(s) and other necessary equipment for ERCP
- ▶ Nurse/Tech prepares contrast media (1/2 or full strength depending on MD preference)
- ▶ Document amount, strength and type of contrast
- ▶ Document fluoroscopy time

# Radiation Safety

- ▶ **Time**
- ▶ **Distance**
- ▶ **Shielding**
  - ▶ 1. Lead apron
  - ▶ 2. Eye protection
  - ▶ 3. Dosimetry badge
- ▶ **Radiation is cumulative**



# Post-Procedure Care

- ▶ Evaluate for signs and symptoms of possible stent malfunction if stent placed
- ▶ Recurrent Jaundice
- ▶ Abdominal pain
- ▶ Elevated temperature
- ▶ Elevated serum bilirubin levels
- ▶ Rest
- ▶ Hydration
- ▶ Medication



## Teamwork

Successful ERCP relies not only on technology, but the collaboration and interaction of a well coordinated collegial endoscopic team.



Did you find anything Doctor??

Questions?



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