

# CT of the Abdomen and Pelvis

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Cancer Center

## Objectives:

- Identify the major solid organ structures in the abdomen and pelvis on CT Scan
- Identify abnormal CT findings and correlate to clinical presentation



# Options for CT abdomen and pelvis

Requested By:  Me  Other: Source: [Allergy Details](#)

Date:  /  /  Time:

Session  
Type:  Reason:

Manual Entry  Searching for ...

Order	Cost	Rating
<input checked="" type="checkbox"/> CT Abdomen w&w/o Con & Chest		
<input type="checkbox"/> CT Abdomen w/ Con		
<input type="checkbox"/> CT Abdomen w/ Liver Triphasic w/wo Con		
<input type="checkbox"/> CT Abdomen w/High Resolution Lung		
<input type="checkbox"/> CT Abdomen w/o Con		
<input type="checkbox"/> CT Abdomen w/wo Con + Chest/Pelvis w/ Con		
<input type="checkbox"/> CT Abdomen w/wo Con + Pelvis w/ Con		
<input type="checkbox"/> CT Abdomen/Pelvis Enema w/ Con		
<input type="checkbox"/> CT Abdomen/Pelvis Enema w/o Con		
<input type="checkbox"/> CT Abdomen/Pelvis w/ Con		
<input type="checkbox"/> CT Abdomen/Pelvis w/Liver Triphasic		
<input type="checkbox"/> CT Abdomen/Pelvis w/o Con		
<input type="checkbox"/> CT ANGIO Abdomen & Chest/Pelvis		
<input type="checkbox"/> CT ANGIO Abdomen & Pelvis		
<input type="checkbox"/> CT ANGIO Abdomen w/ Chest		
<input type="checkbox"/> CT ANGIO Abdomen w/ Con		
<input type="checkbox"/> CT ANGIO Abdomen w/&w/o Con		
<input type="checkbox"/> CT Angio Abdomen/Pelvis Aorta		
<input type="checkbox"/> CT Angio Chest Aorta		
<input type="checkbox"/> CT Angio Chest/Abd/Pelvis Aorta		
<input type="checkbox"/> CT Angio Chest/Abdomen Aorta (Dissection)		

## So many scans: How do I choose?

**Clinical Statement:** Give the radiologist the correct information

**Be Specific:** What is the question you are trying to answer?

# Oral Contrast : used for bowel opacification

## Gastrografin

- Water soluble
- Most used at MSK
- Safe in suspected perforation
- Concerns: Aspiration!

## Barium

- Thick white chalky liquid
- Used for Iodine allergy
- Concerns: constipation/obscure imaging

## IV Contrast in CT Abdomen and Pelvis

- Used for opacification of organs and vasculature
- Improves image contrast between lesions and normal structures
- At MSKCC we use non-ionic contrast. There is less incidence of anaphylaxis
- **RISKS:** nephrotoxic, anaphylaxis, urticaria and other allergic symptoms

# Why use IV contrast in CT Abdomen?

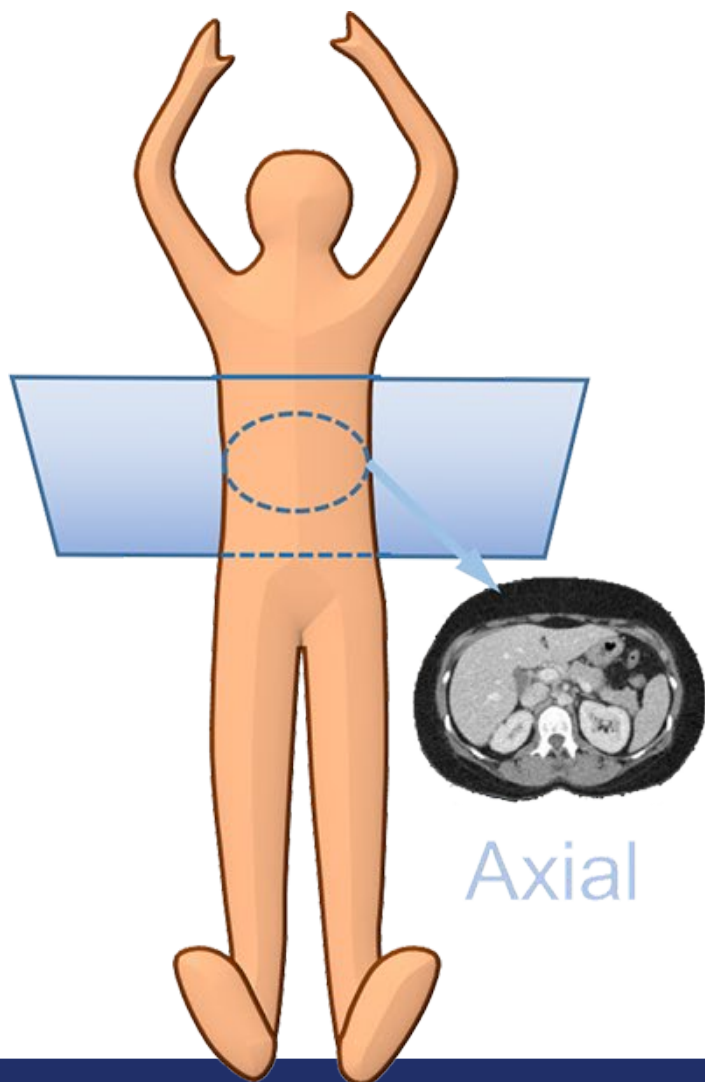
**NON-CONTRAST**



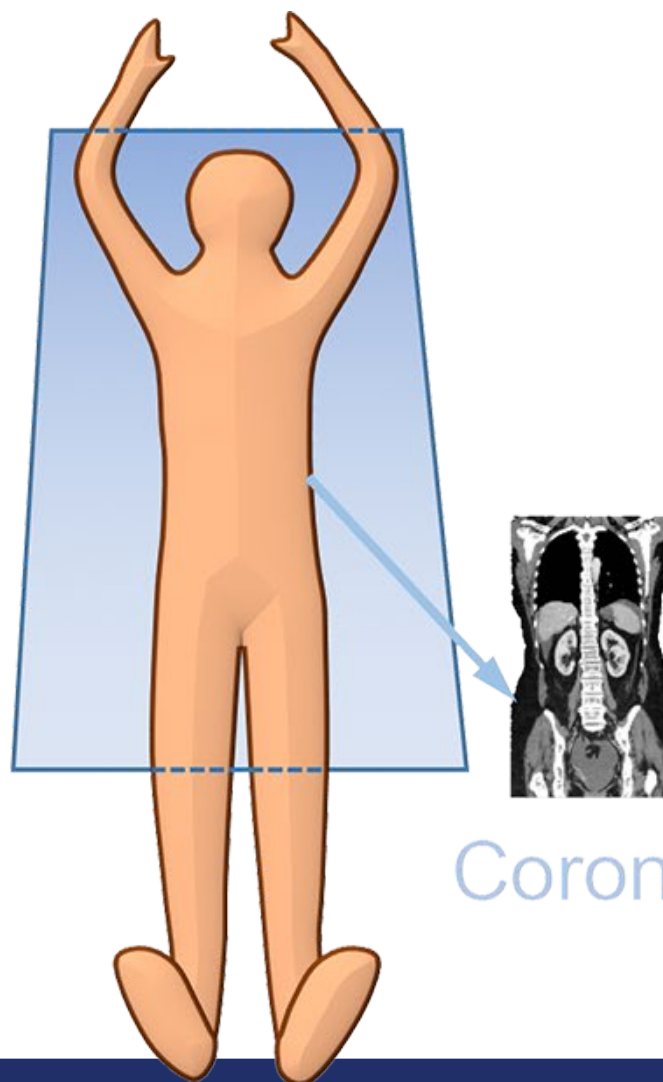
**IV CONTRAST**



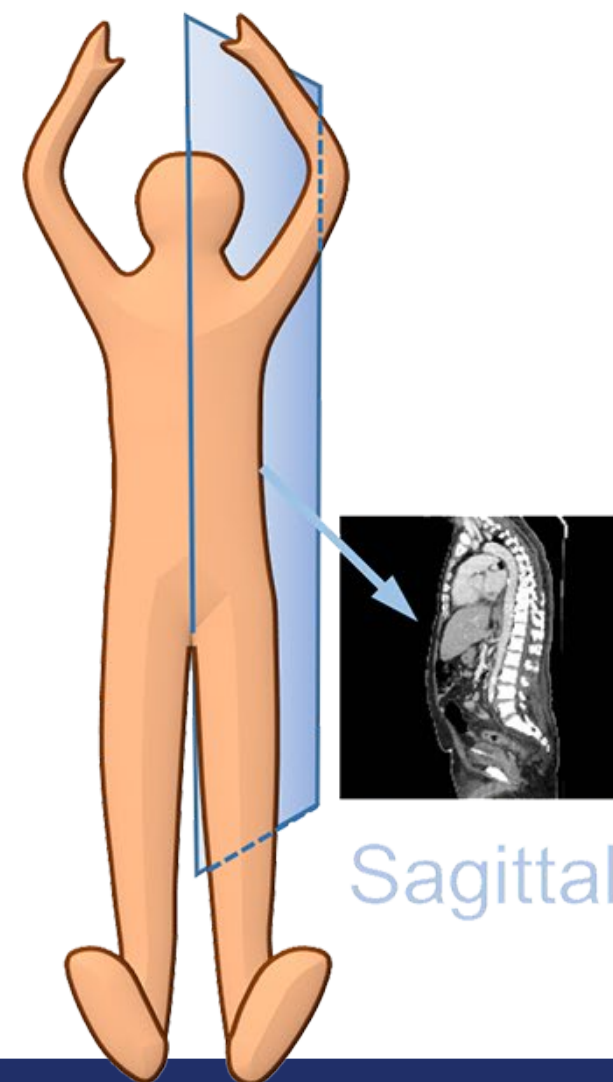
# CT Image plans



Axial



Coronal



Sagittal

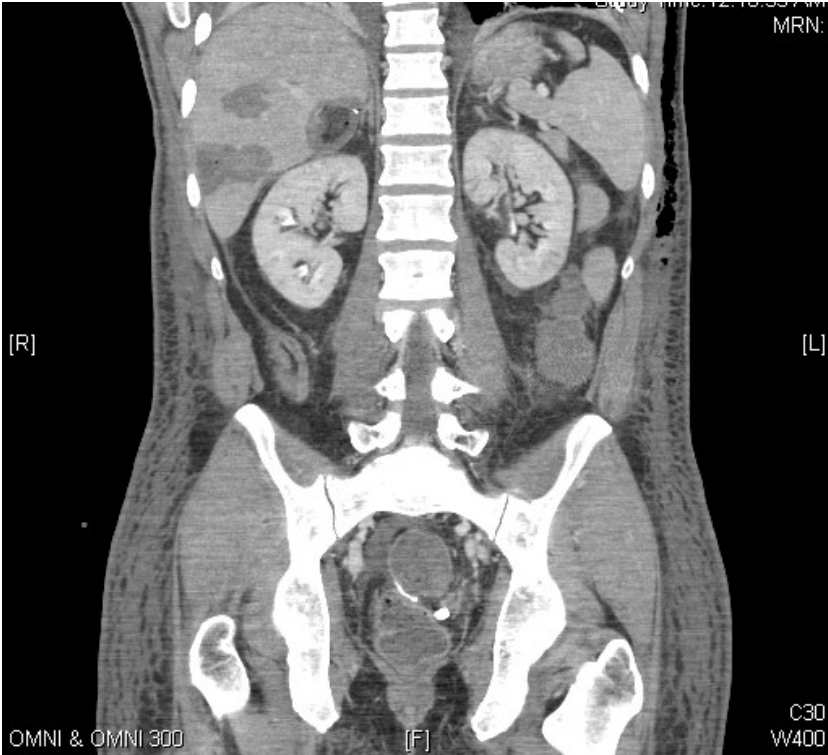


# Most common IMAGE PLANES for CT Abdomen / Pelvis

## AXIAL (transverse)



## CORONAL (frontal)



# Know your ABC'S before looking at CT scans

**A**natomy – takes time and repetition to identify

**B**lack – is air

**C**ontrast, Bone and stones- are white

**S**hades of gray - everything else (hypodense, hyperintense, simple, complex)

# CT Abdomen and Pelvis : Anatomy

<https://radiopaedia.org/cases/normal-ct-abdomen?lang=us>

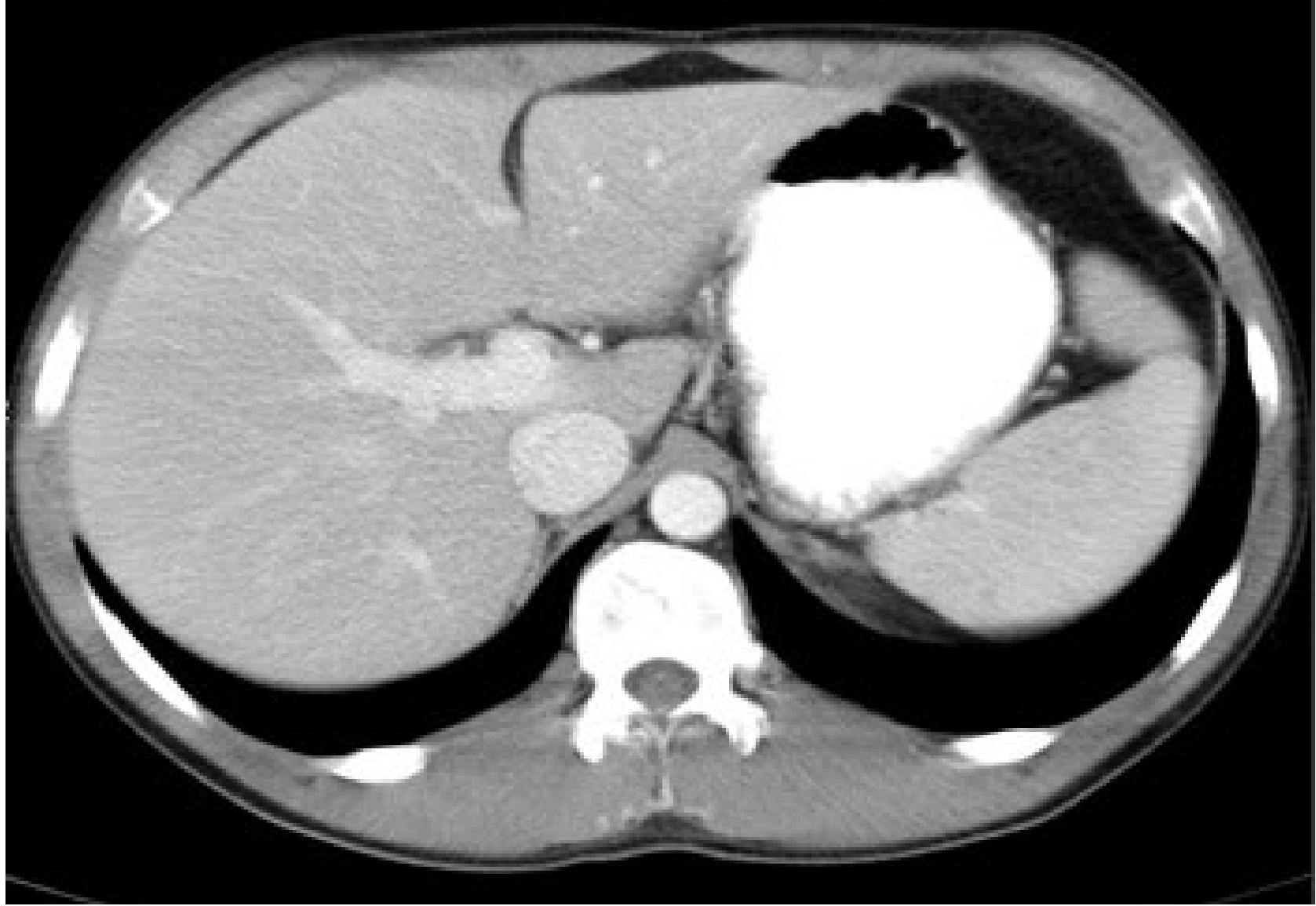
**ABNORMAL FINDINGS**

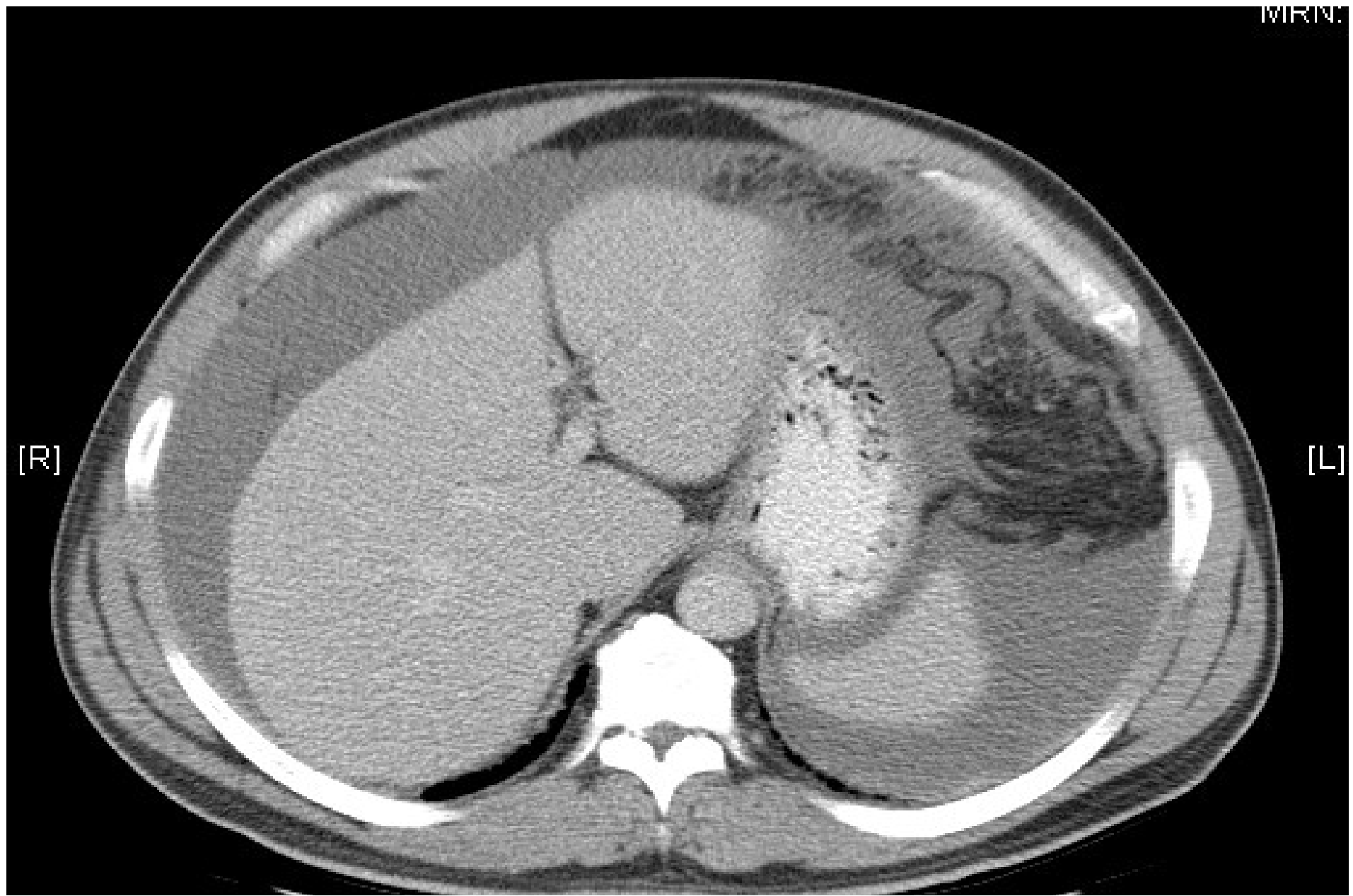
**CT ABDOMEN / PELVIS**

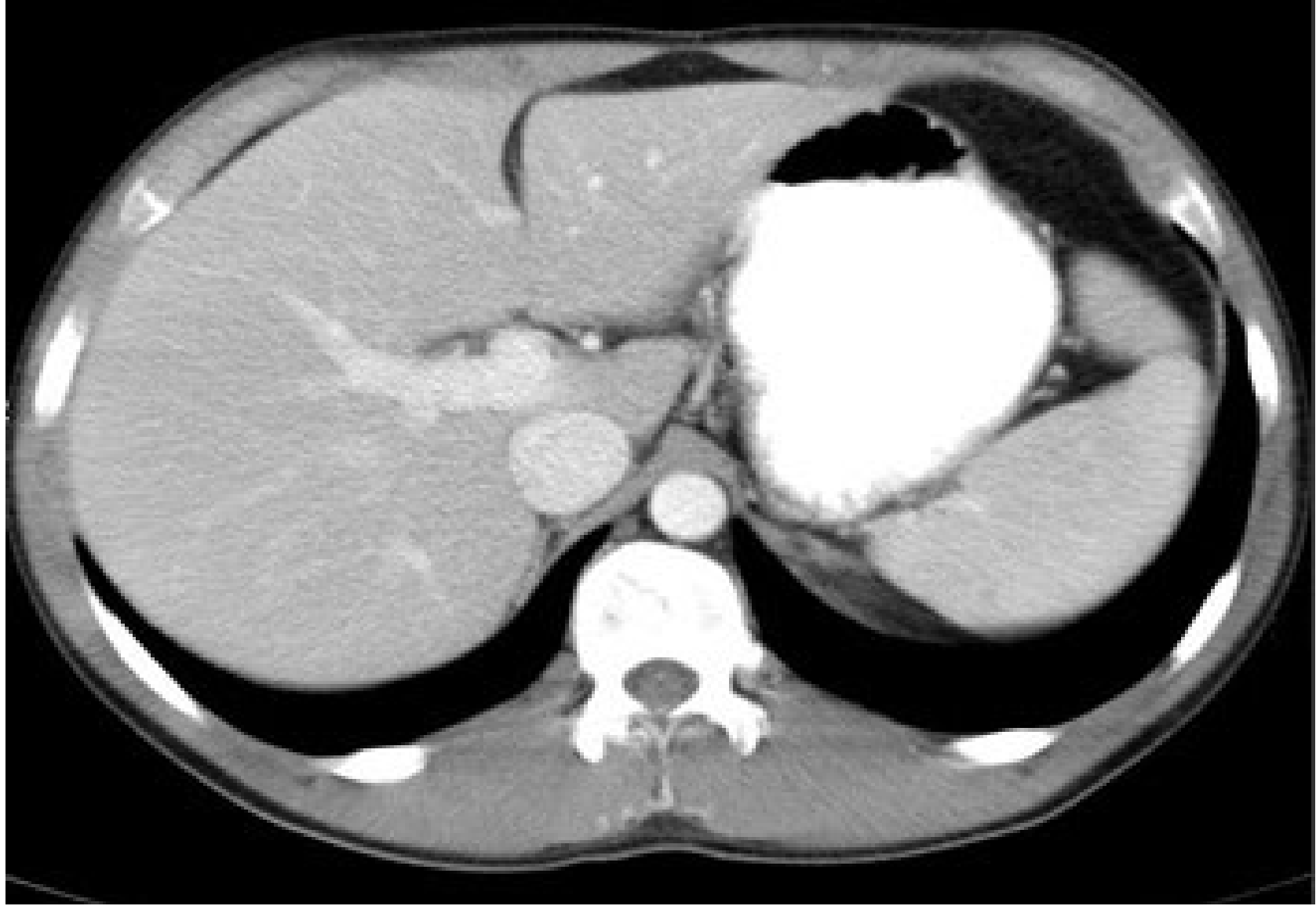


# **Shades of gray** – Abnormal abdominal fluid findings





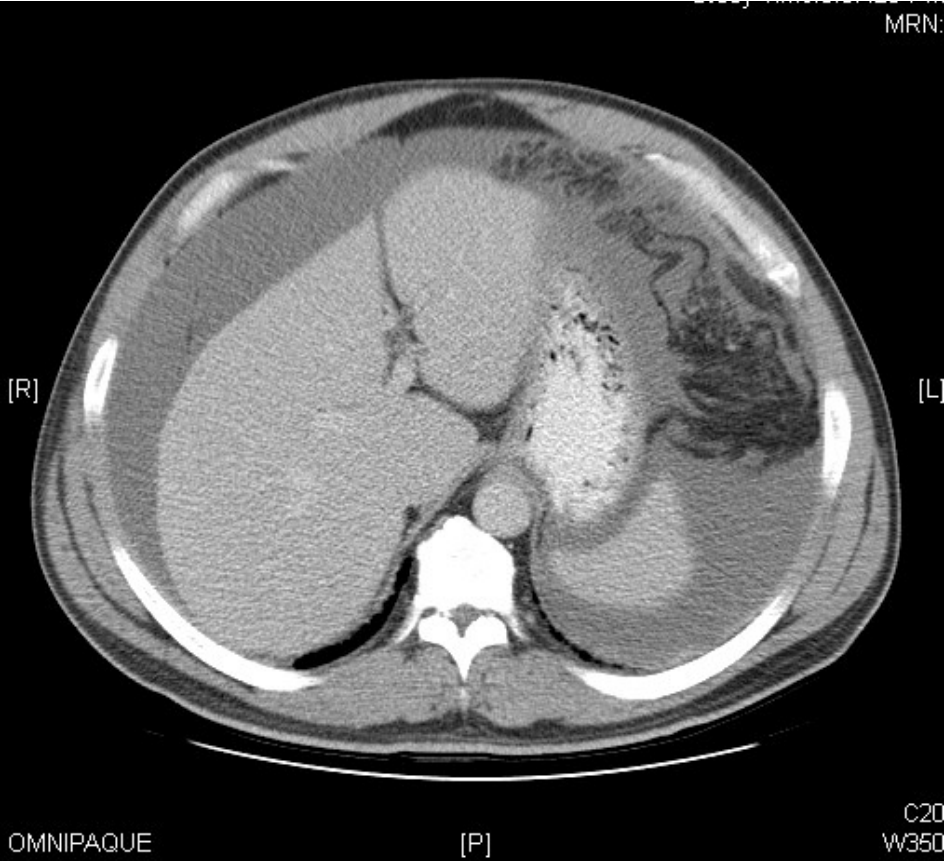




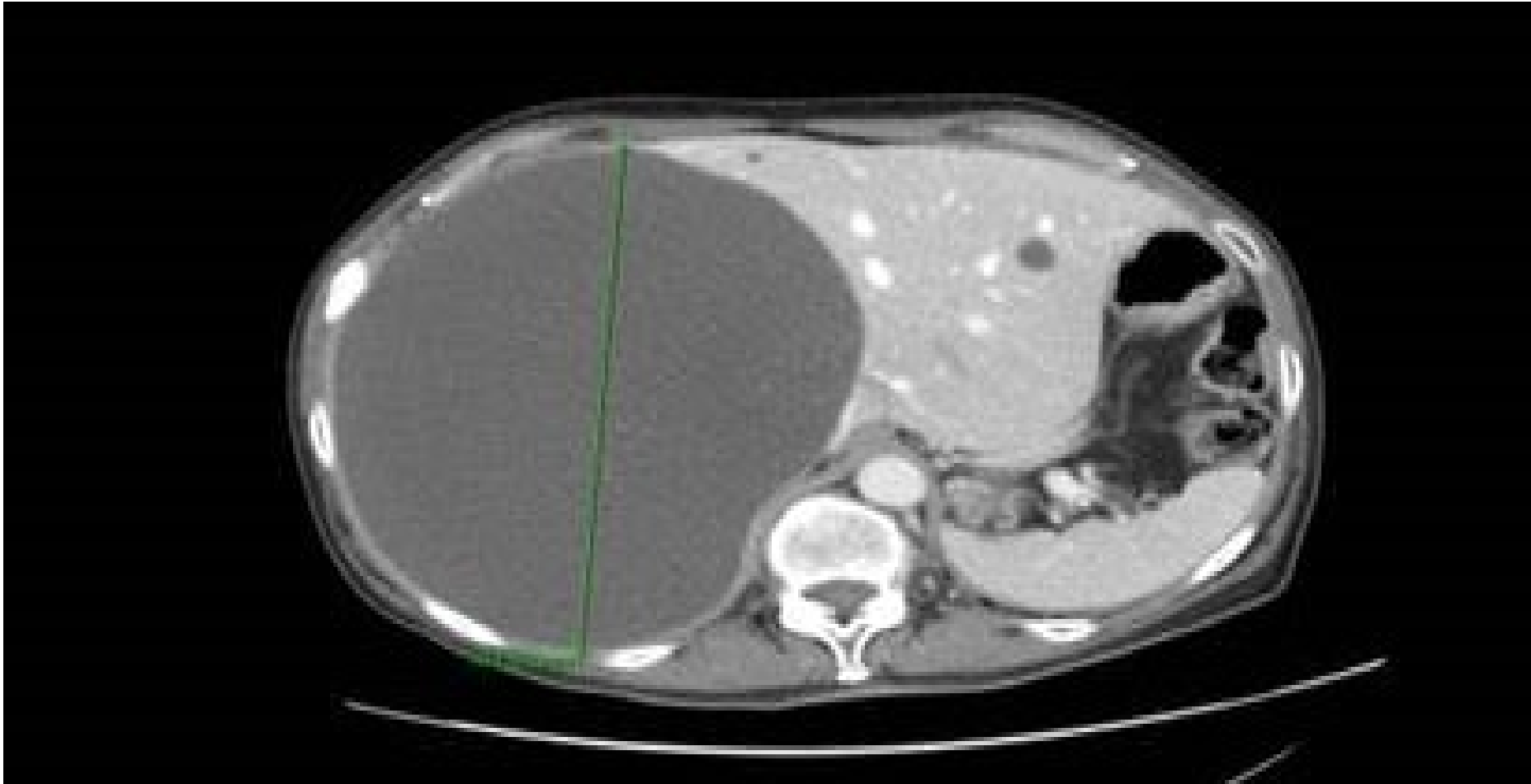




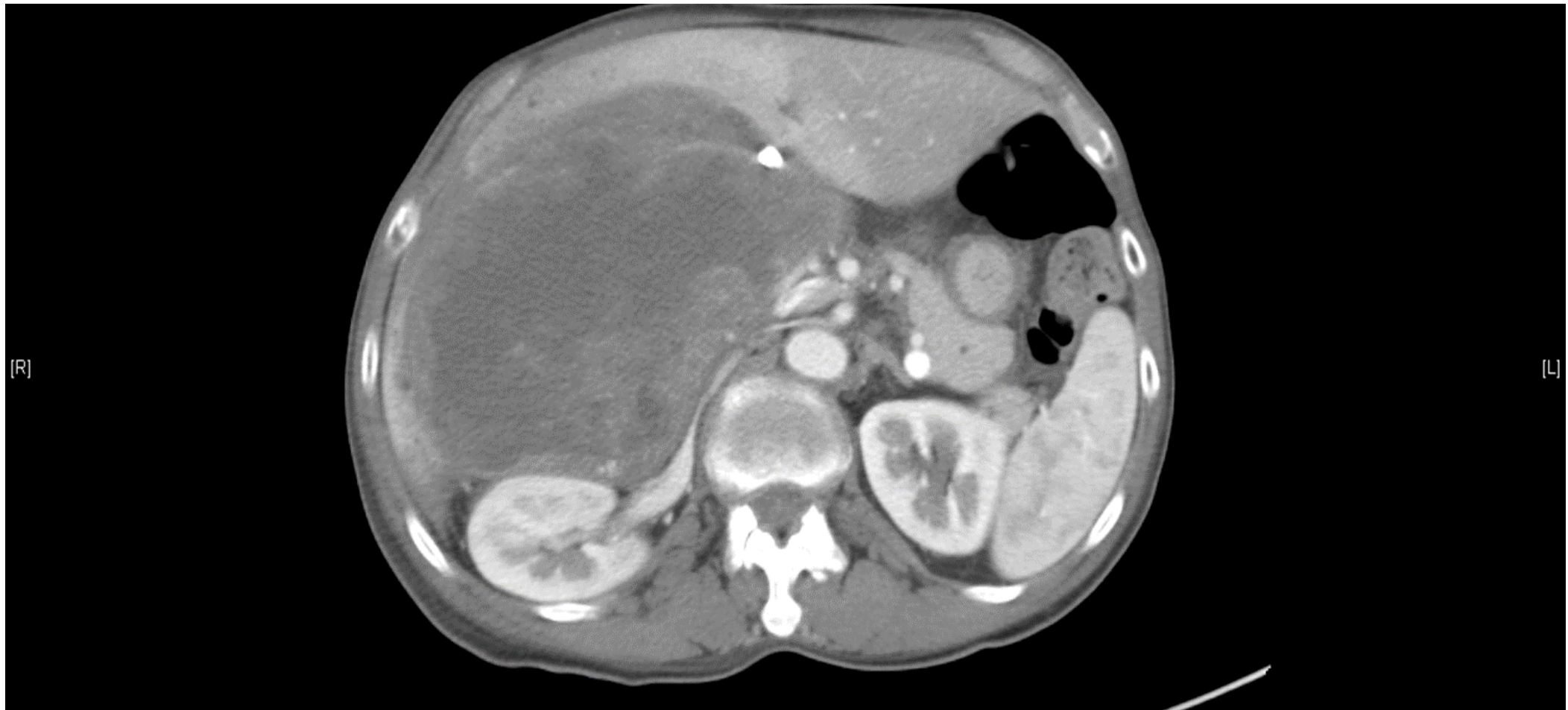
# Fluid Simple vs Complex



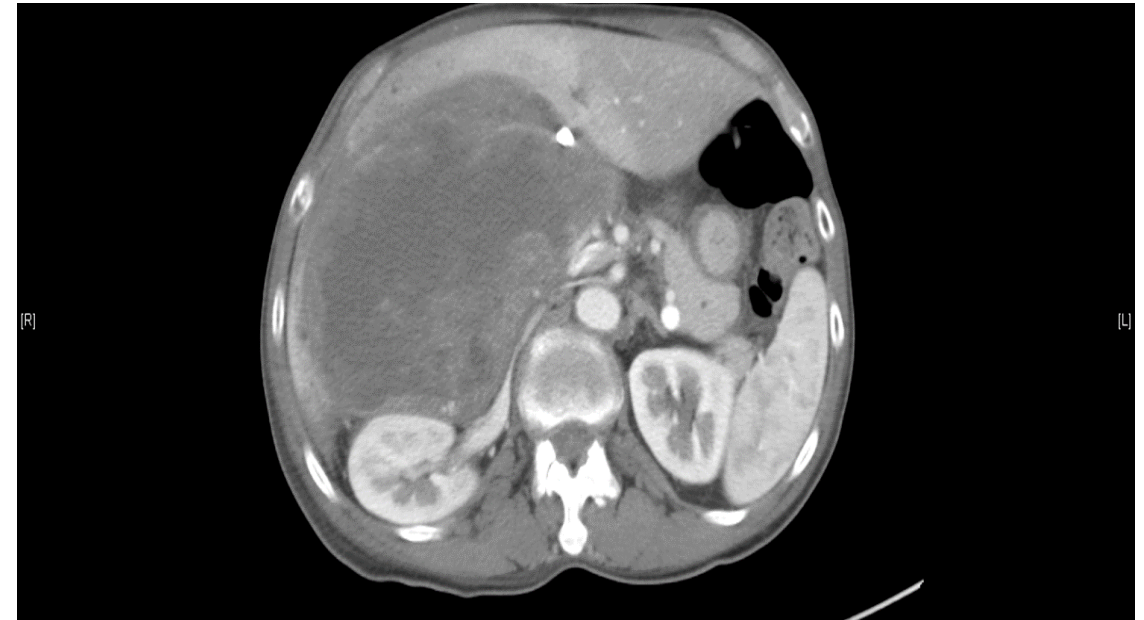
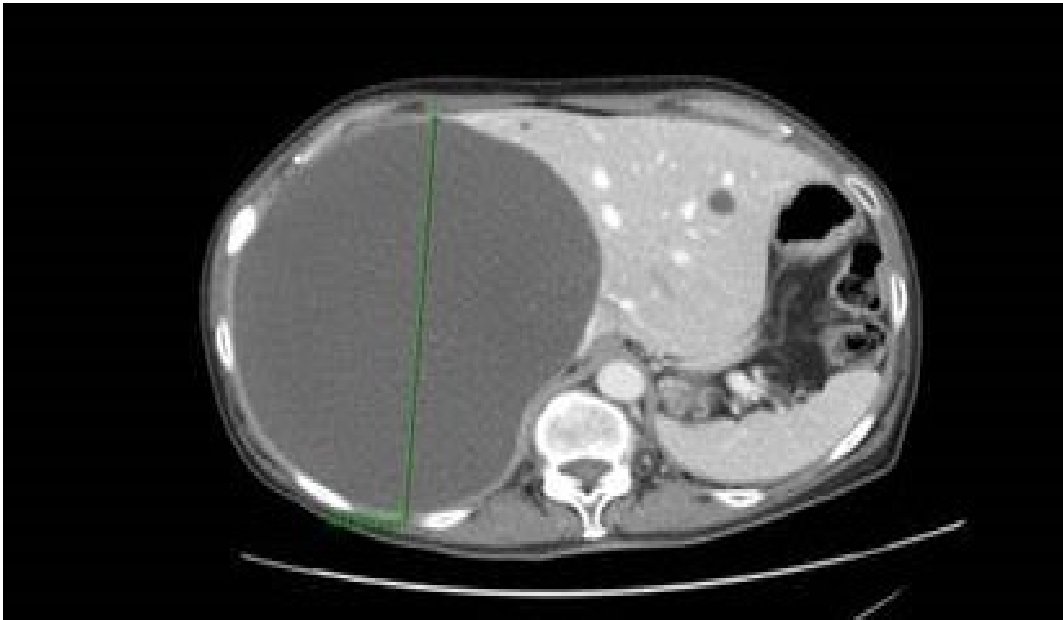
# Liver cyst



# Hemorrhagic liver lesion



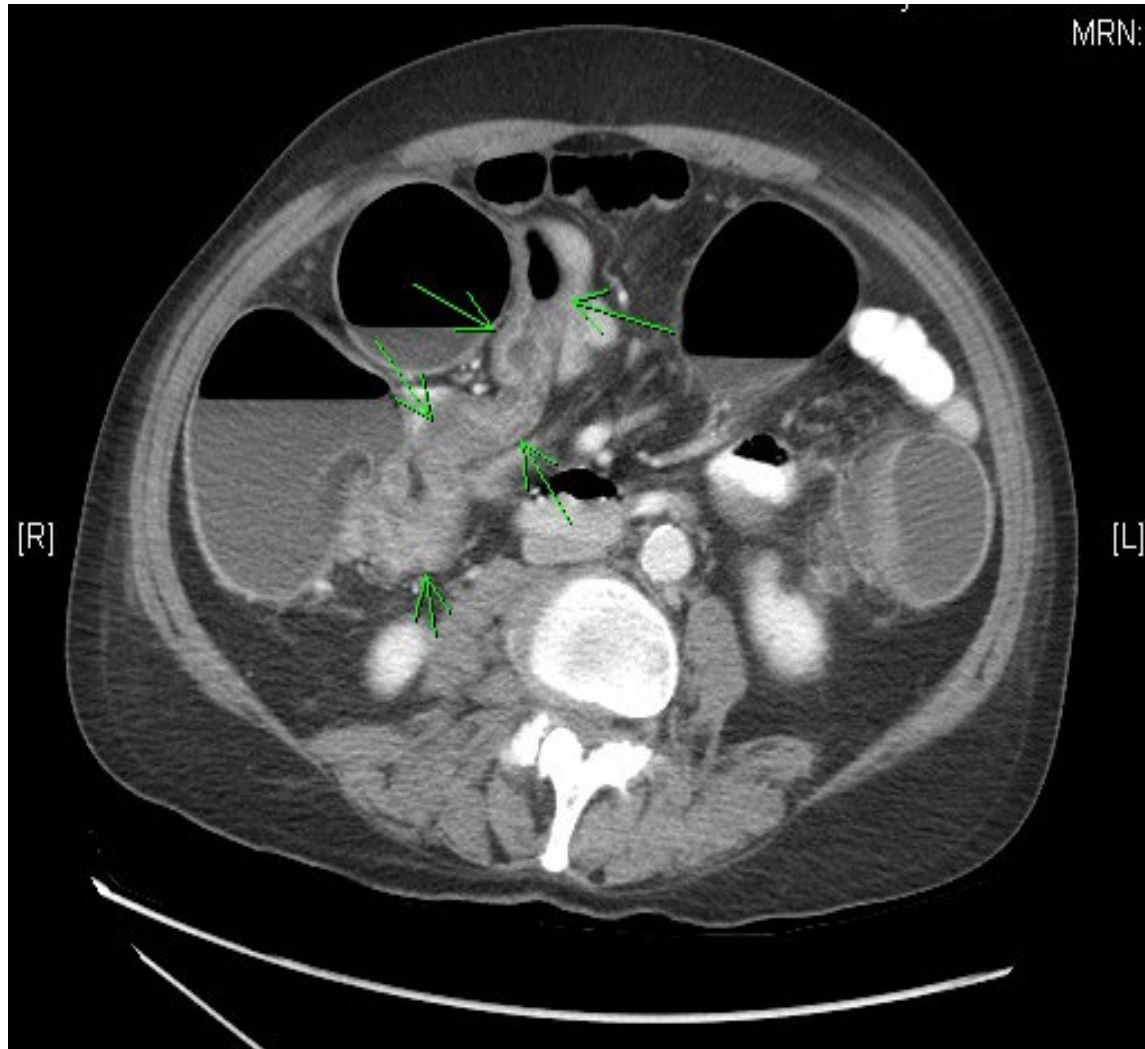
# Simple vs Complex







# Bowel Obstruction



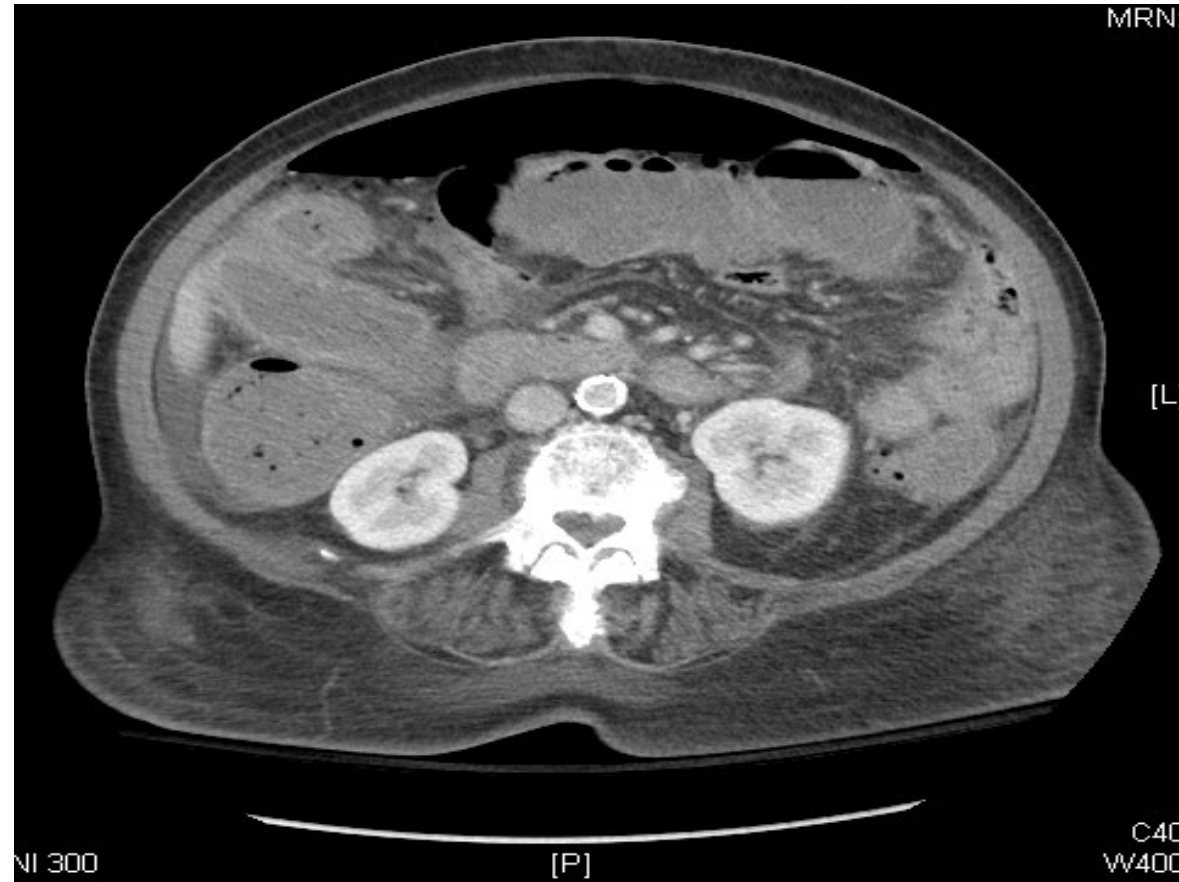
**EMERGENCY:**

Air where it does **NOT** belong





# Free Air



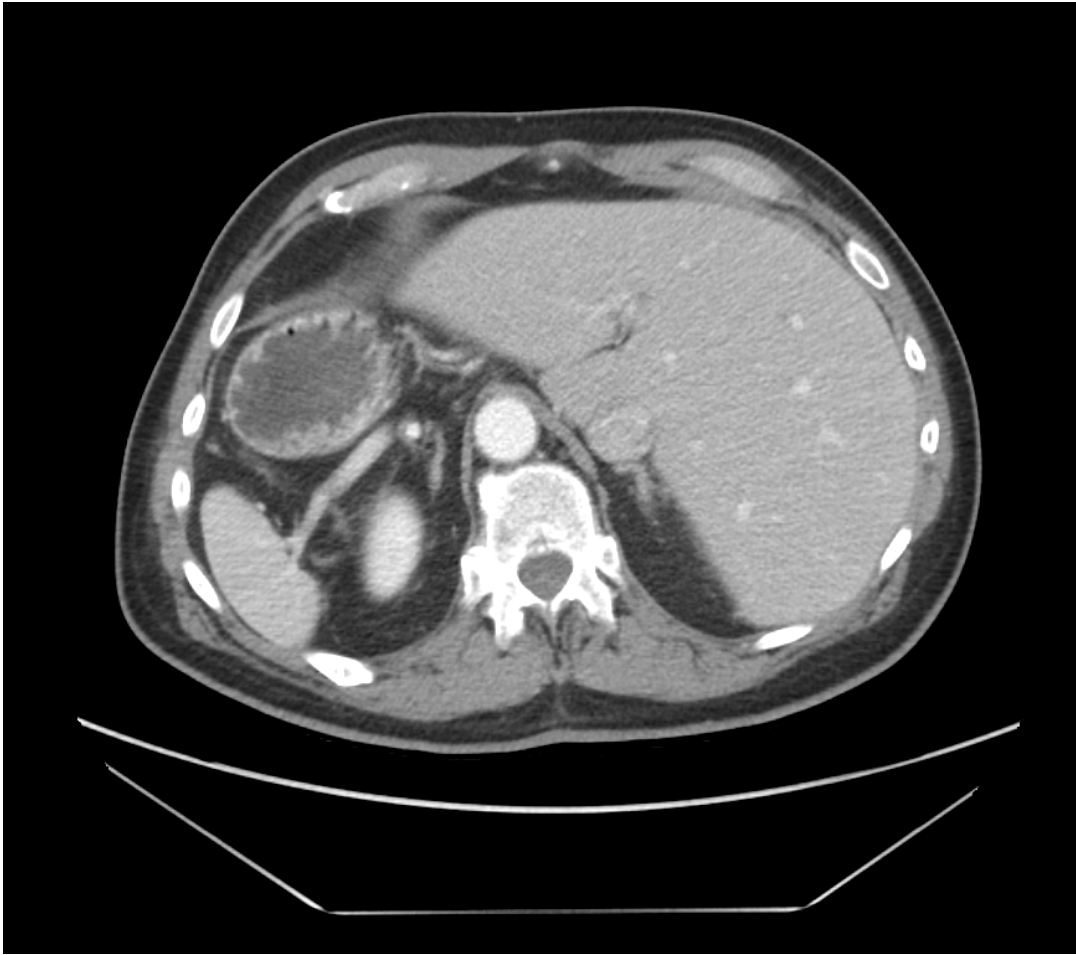


# Pneumatosis



**Just when you think you are starting to “get it” .....**

**Can you tell what is different about this next scan ?**





## Situs Inversus



# 3 Keys to CT scan interpretation for the Advanced Practice Provider

1. Know and understand normal anatomy
2. Understand what the black, the white and the shades of grey represent on CT scan
3. Pattern recognition

