

MI 263: Clinical Seminar V

Reading Hospital School of Health Sciences  
Medical Imaging Program  
2022

Fluoro Equipment  
and  
UGI Anatomy

Mrs. Christina Wehr BS RT (R)

Rev. 7/2022

1

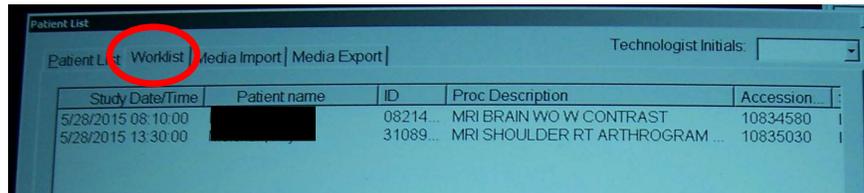
Pulling up a Patient  
in Room 7

2

- Hit the Three Person button



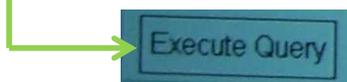
- Then hit Select Worklist



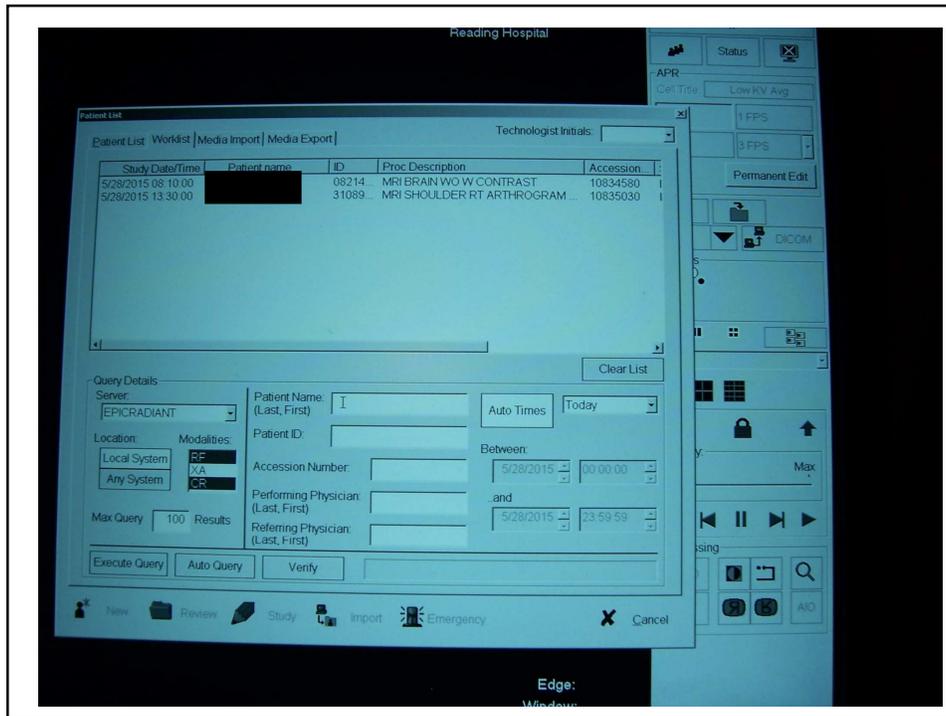
3

- Enter Patient's last in name in 'Query Details'

- Hit Execute Query



4



5

Pulling Up Patients  
in Rm 5

6

Study List    Image List

Reserve **MWM** Today All    Query Condition

Pat ID	Pat Name	Accession No.	Date Time	Procedure
1234567	Doe, John	9876543	6/13/2017 0830	UGI

Study    Img Edit    Print Edit

New Study

Delete

Emergency Study

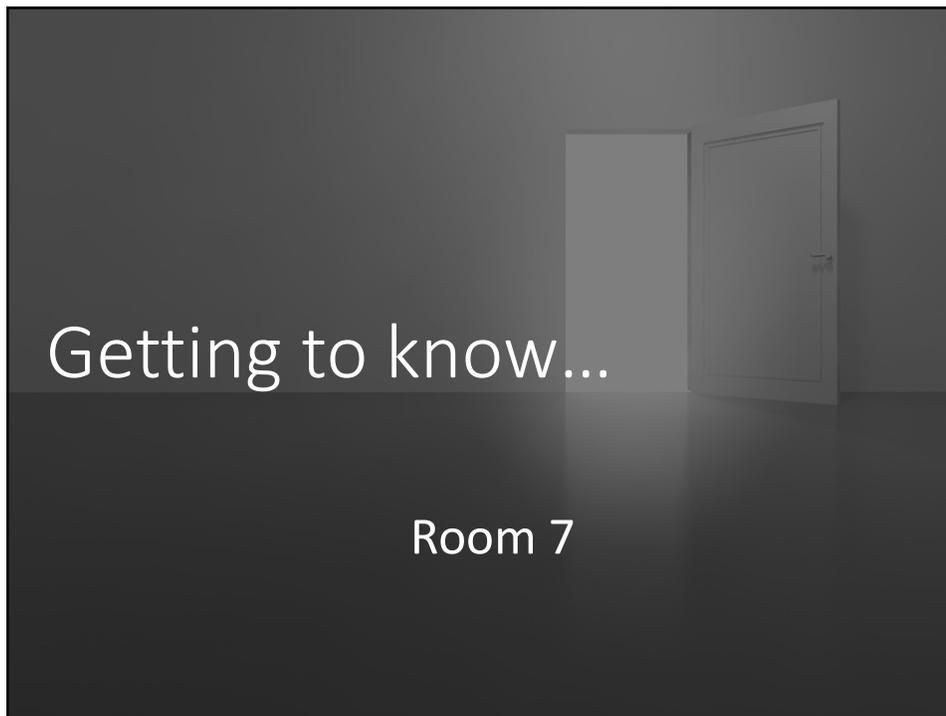
1. Click on the MWM tab.  
2. Highlight patient.  
3. Then Left click New Study

Then select the procedure you are to perform and left click 'Commit'.

Patient ID:  
Patient's name:  
DOB:  
Sex:

Accession No.:  
Procedure:  
Req. dept:  
Physician:  
Technologist:  
Schedule date:  
Comment:

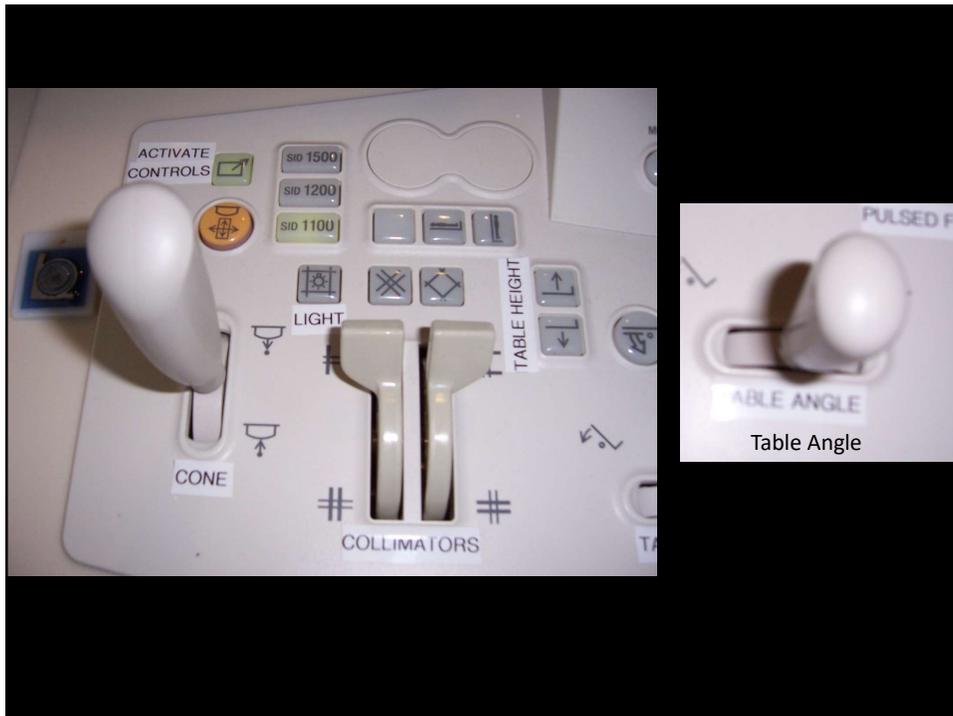
7



8



9



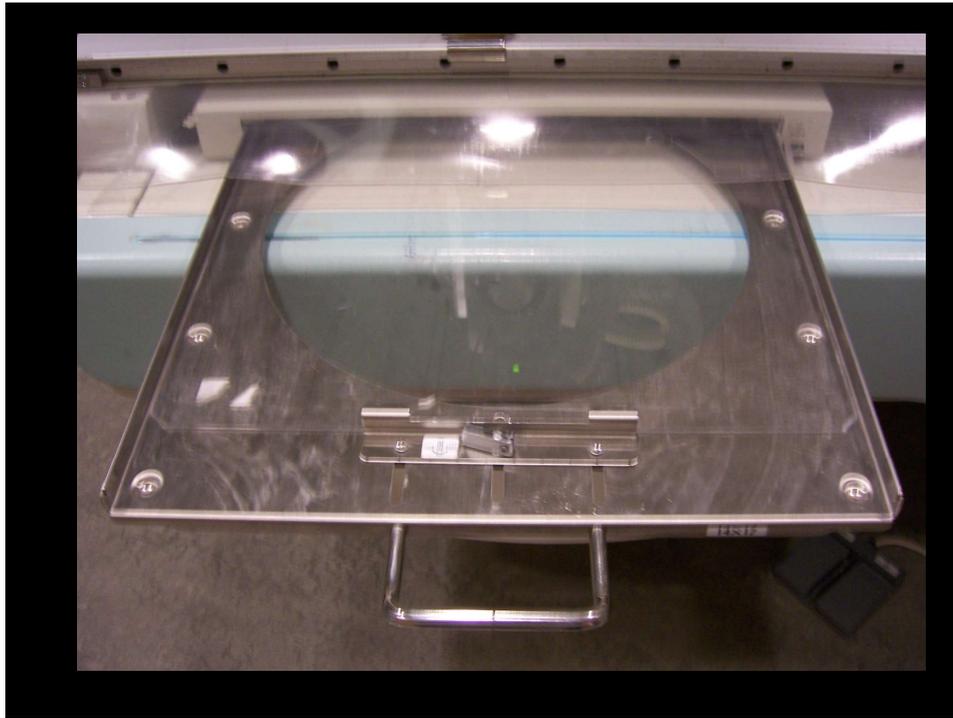
10



11



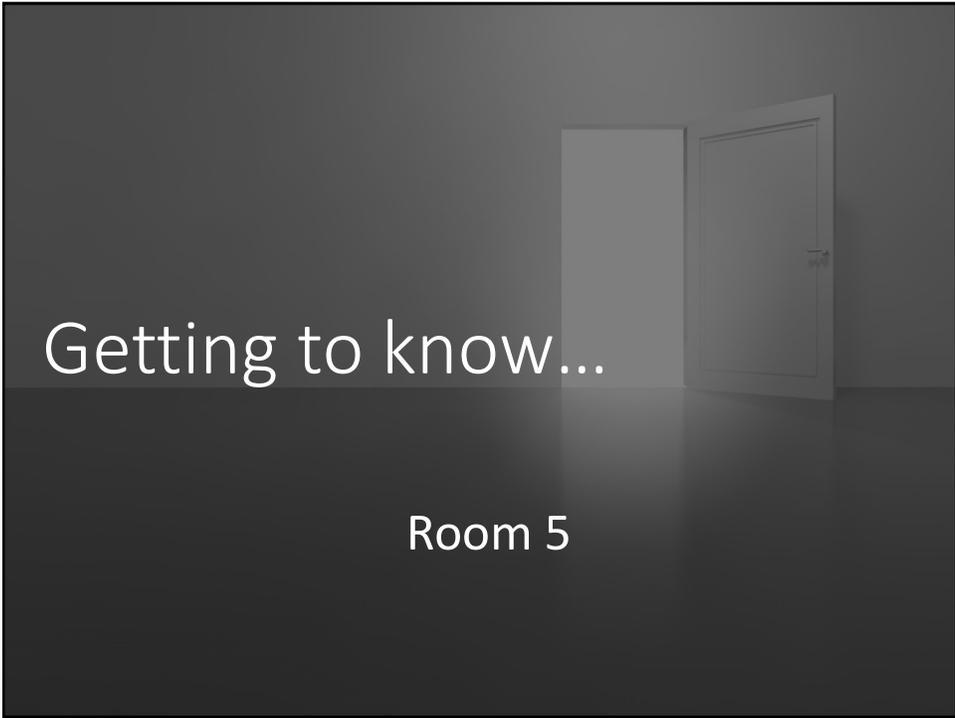
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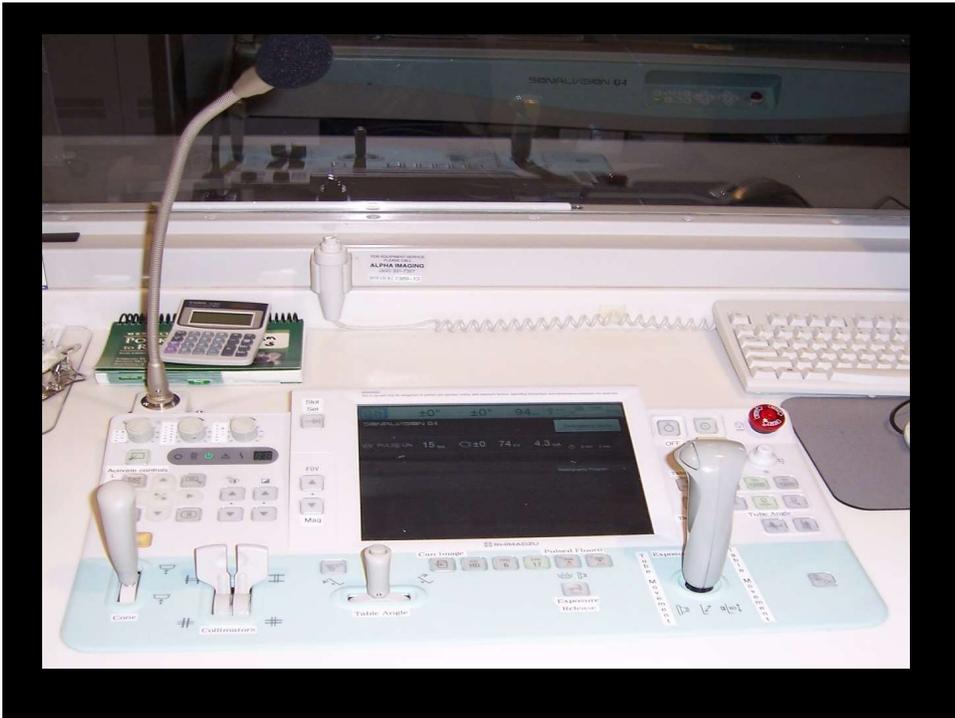
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15

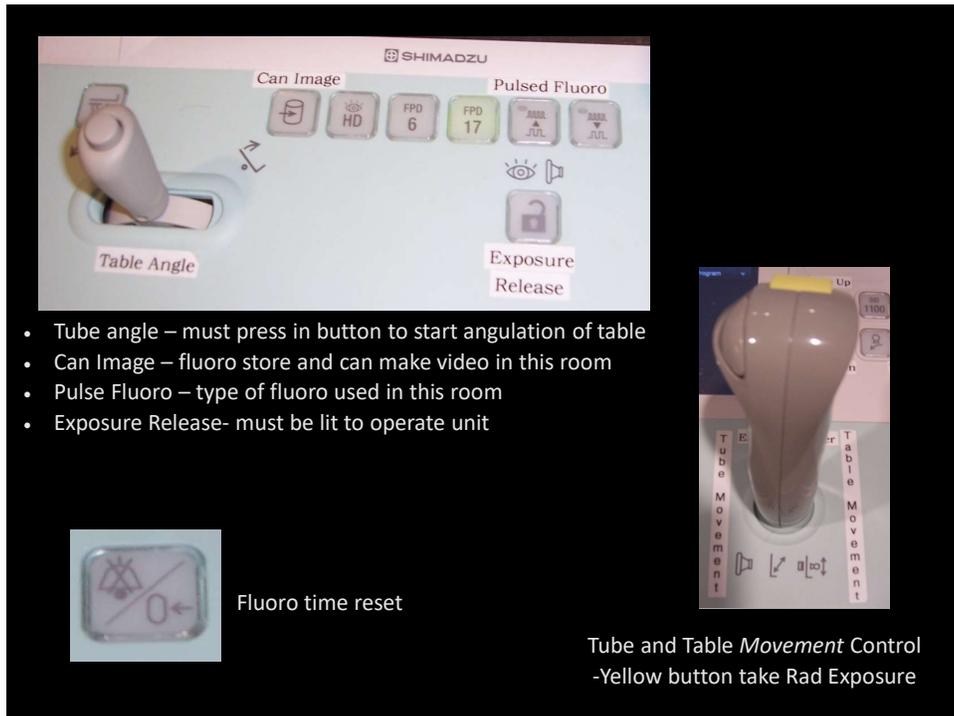


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- Controls shown:
- Microphone and Room sound
  - Activate controls
  - Light
  - Image Orientation (Rs)
  - Density (Radiographic-square)
  - Density (Fluoro-rose)
  - Magnification
  - Slot Set
  - Video review

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- Tube angle – must press in button to start angulation of table
- Can Image – fluoro store and can make video in this room
- Pulse Fluoro – type of fluoro used in this room
- Exposure Release- must be lit to operate unit



Fluoro time reset



Tube and Table Movement Control  
-Yellow button take Rad Exposure

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Cone, Collimators, Trendelenburg

Trendelenburg

Controls Shown:

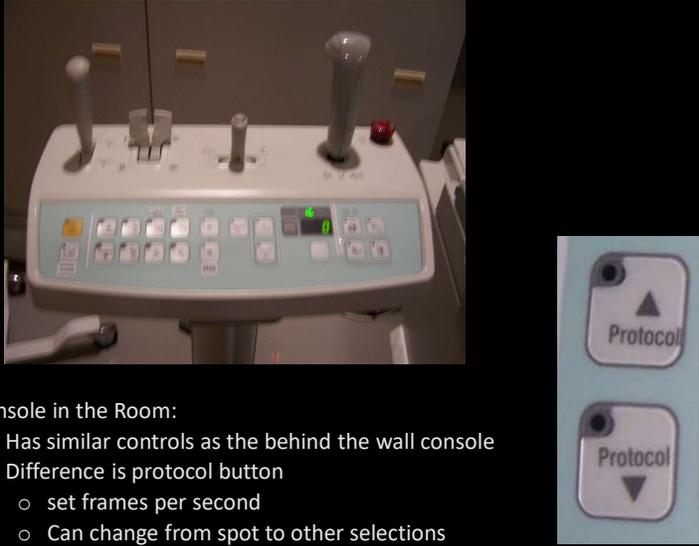
- ON/OFF
- Emergency Shutoff
- Table controls
  - i. Up and down
  - ii. Horizontal and Vertical
- SID
- Collimation (side and iris)

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- Activate controls
- SID – hit SID button to change between 1500, 1200 and 1100
- Scoliosis controls
  - i. Start, stop, set
- Table/tube controls
  - i. Angle
  - ii. Table movement (up and down)
  - iii. Tube movement
  - iv. Table movement (side to side)
- Loading position
- Light

Table controls

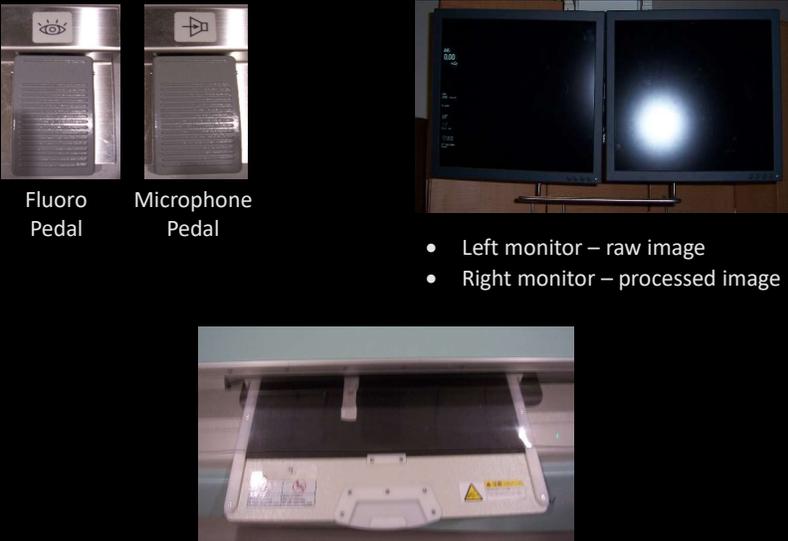
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Console in the Room:

- Has similar controls as the behind the wall console
- Difference is protocol button
  - set frames per second
  - Can change from spot to other selections

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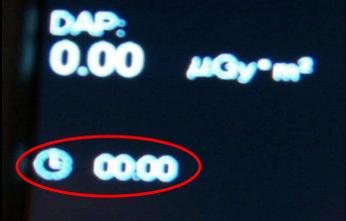
Fluoro Pedal      Microphone Pedal

- Left monitor – raw image
- Right monitor – processed image

Detector with Grid:

- Markers are placed on the grid when performing fluoro images

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During a procedure, you can find the fluoro time on the raw image monitor

Total DAP: 3014.2	dGY cm <sup>2</sup>
Total time of Fluo.: 02:51	
Number of Expo.: 35	

After a procedure, you can find fluoro time by going under the today tab. Then highlight your patient and look in the bottom right corner for the above information

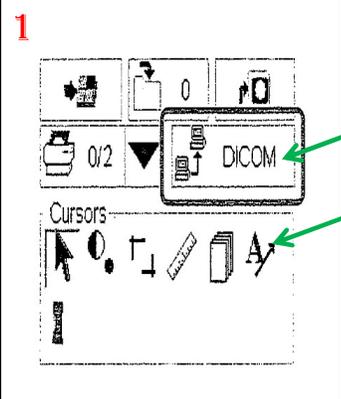
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# How to Send Images to PACS Room 7



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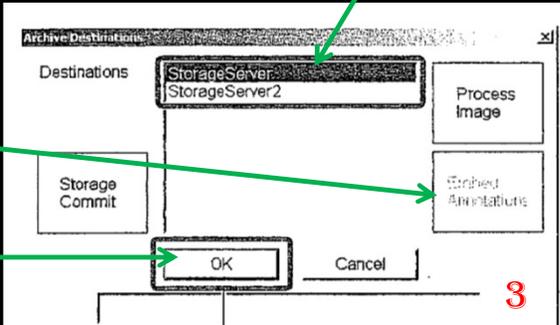
**1**



To start process of sending images to PACS

To annotate text

Select appropriate PACS destination



If you annotated text on must select 'Embed Annotations' prior to selecting OK

Click 'OK' when ready to send images

**3**

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# How to Send Images to PACS

## Room 5

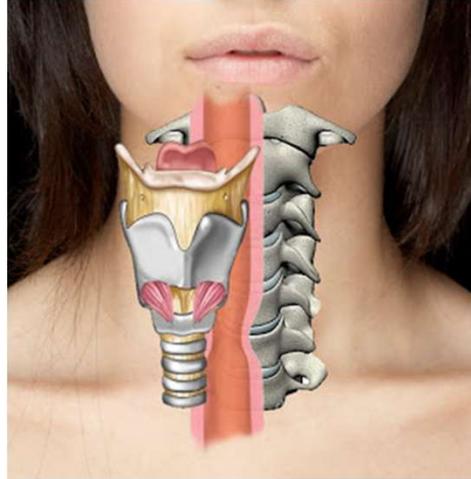


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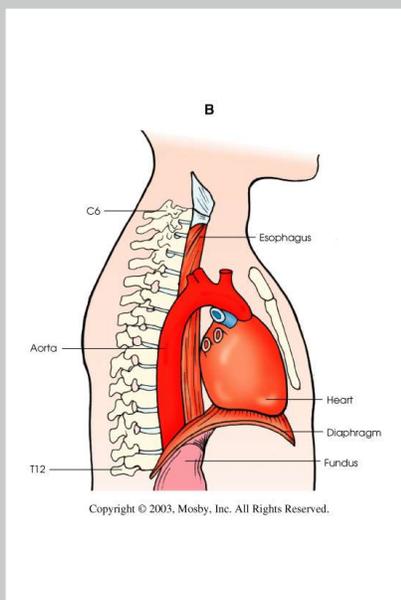


## Esophagus

- Anterior to spine
- Posterior to trachea
- Lies in midsagittal plane



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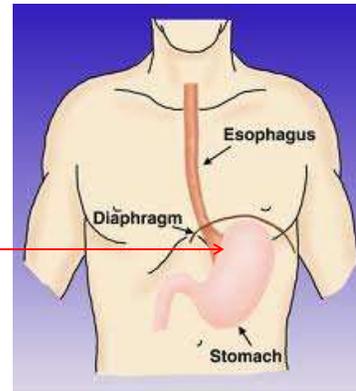


Esophagus runs from level of C6 until it joins the stomach (Esophagogastric Junction)

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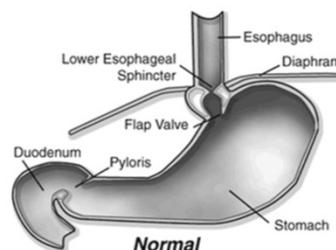
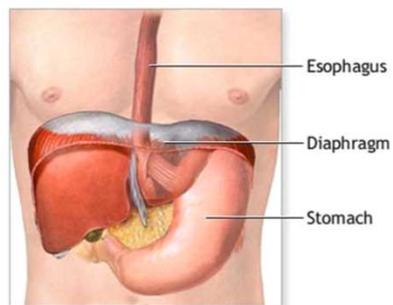
As it connects to stomach  
it widens called **Cardiac  
Antrum**

Esophagogastric  
Junction (EGJ)

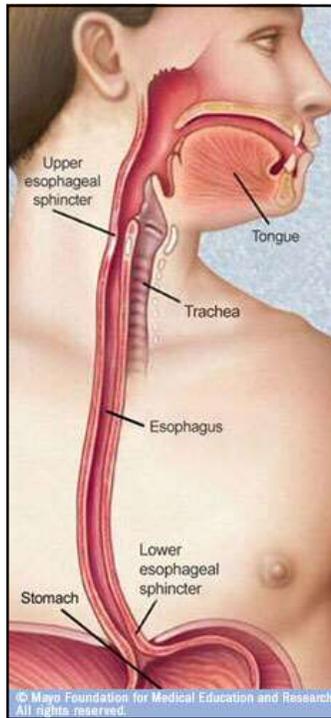


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Before joining stomach,  
esophagus passes through diaphragm=  
**Esophageal Hiatus**



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- **Upper esophageal sphincter**

- Entrance of esophagus

- **Lower esophageal sphincter – ‘Cardioesophageal sphincter’**

- Entrance to stomach

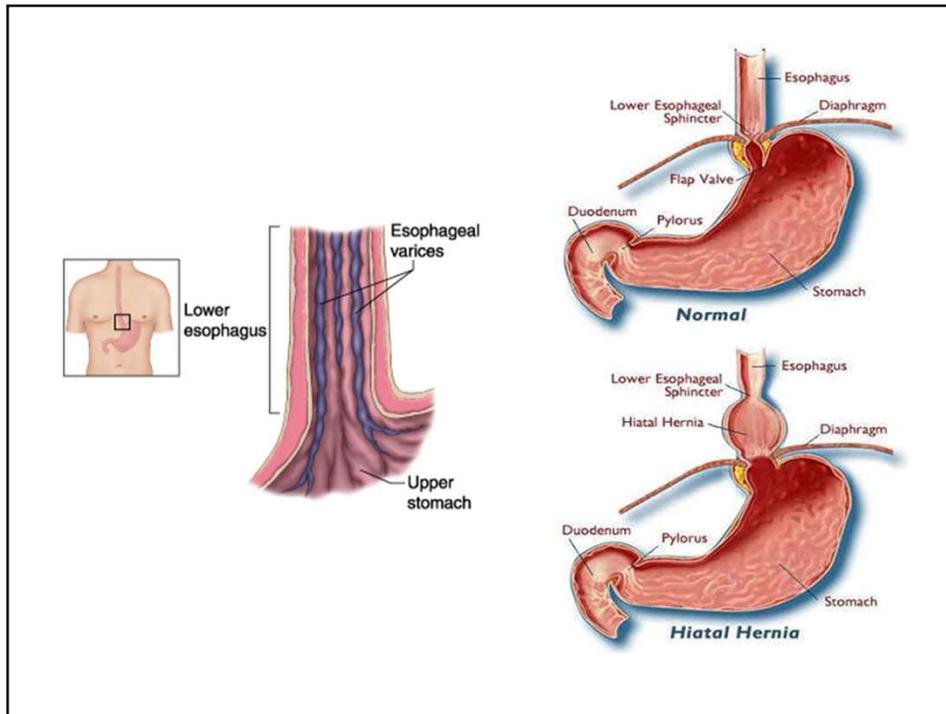
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Did you  
ever hear  
the RA ask  
the patient  
to bear  
down?????

- That’s called the .... **Valsalva Maneuver**

- Patient is asked to take in a deep breath, hold it in, and bear down like they are moving their bowels
- Most common fluoro breathing exercise used to show **reflux, hiatal hernia and esophageal varices.**

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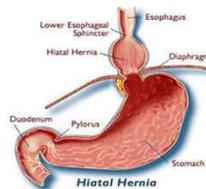
Other techniques you might see...

### Trendelenburg:

Table tilted HEAD end DOWN



Great for helping to show a hiatal hernia



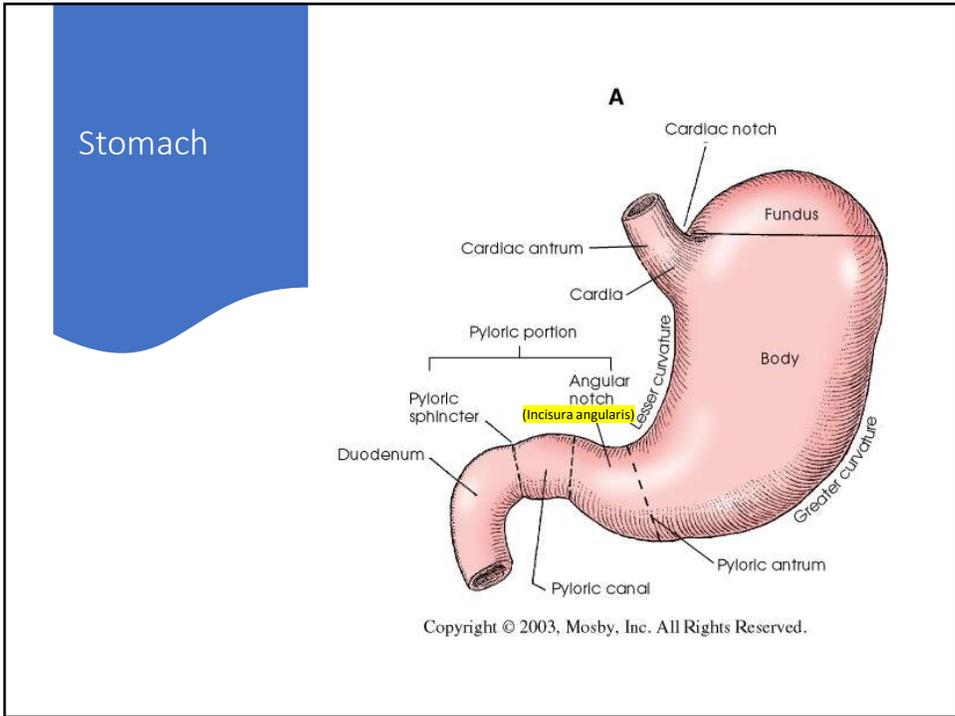
Go to patient's head end when extreme trendelenburg!

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# Upper Gastrointestinal Study

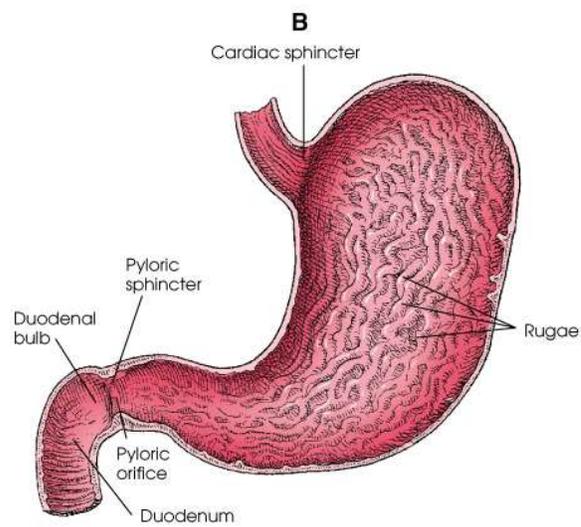
FL UPPER GI W/WO KUB SINGLE CONTRAST  
FL UPPER GI W/WO KUB W DOUBLE CONTRAST

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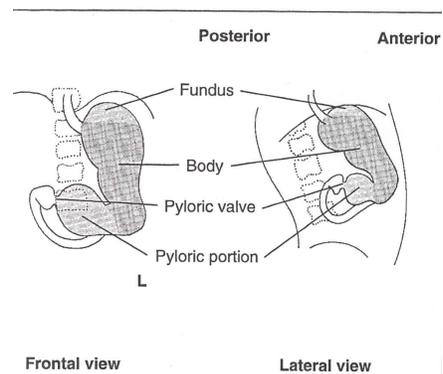
## Internal Stomach



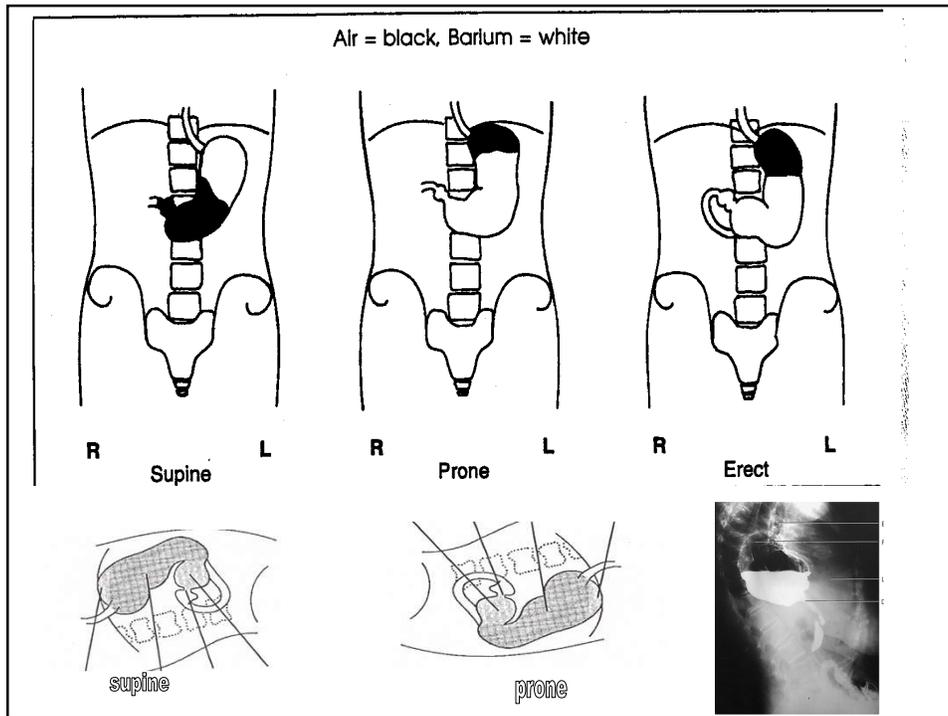
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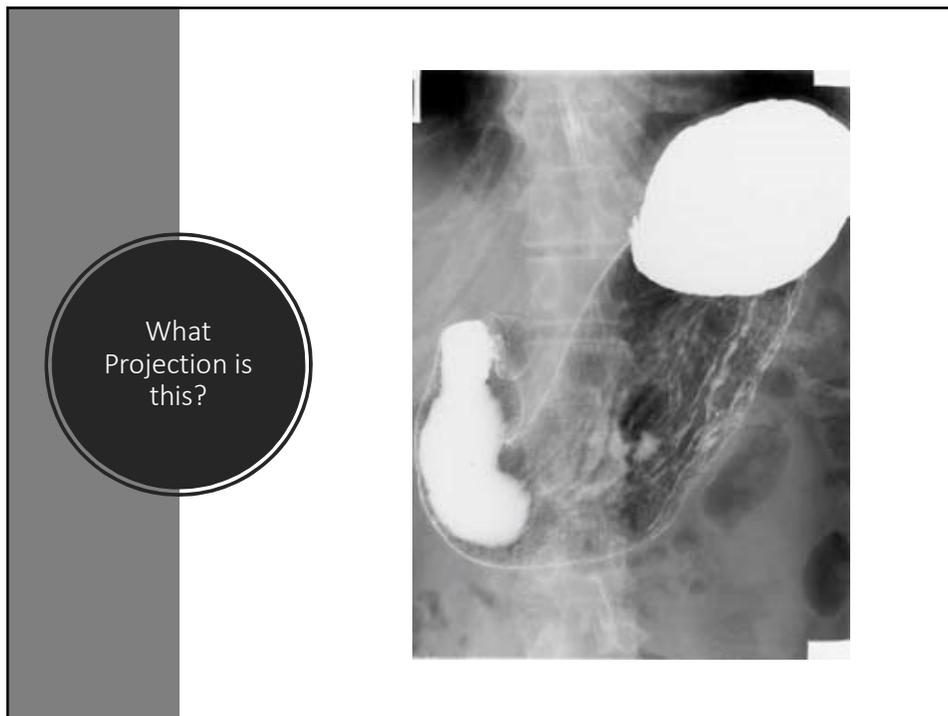
## Stomach Orientation



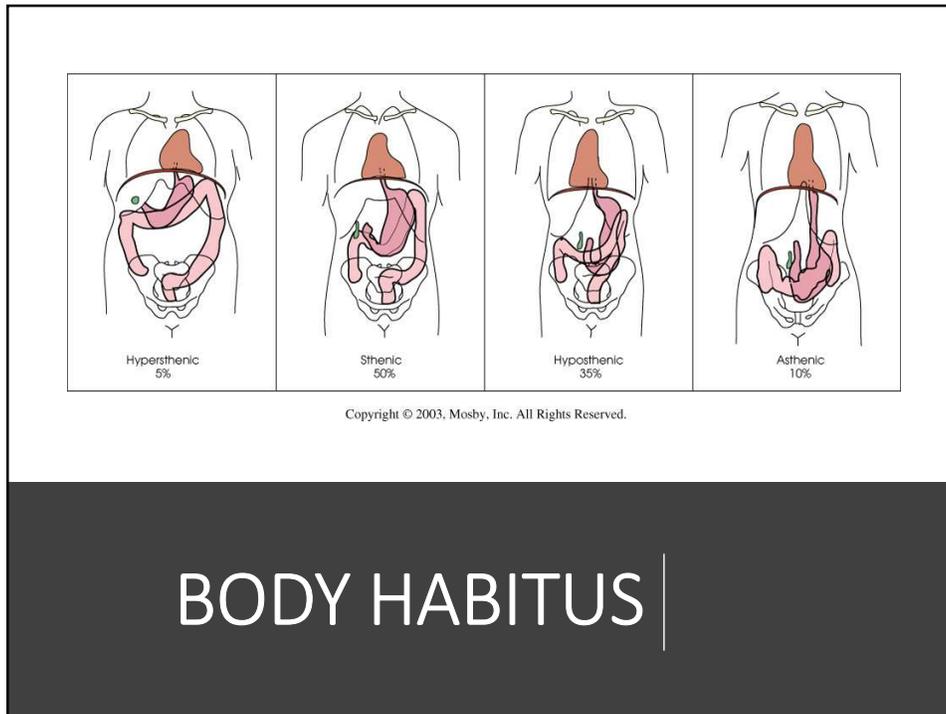
40



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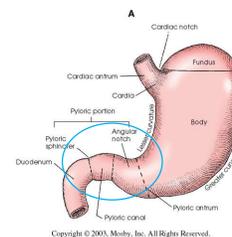
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## BODY HABITUS

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Location of Pylorus is key for centering....



**Sthenic (avg.) – L2**

Hypersthenic (Wide) – T11-L1

Hyposthenic (thin) – L3/L4

Asthenic (very skinny!!) – L4-L5

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## Duodenal Bulb is also important...

T11-12

L1-2

L3-4

**Hypersthenic**

- Duodenal bulb:
  - to right of midline
  - level of T11-12

**Sthenic**

- Duodenal bulb:
  - slightly to right of midline
  - level of L1-2

**Hyposthenic/  
Asthenic**

- Duodenal bulb:
  - at midline
  - level of L3-4

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### Sthenic (Avg)

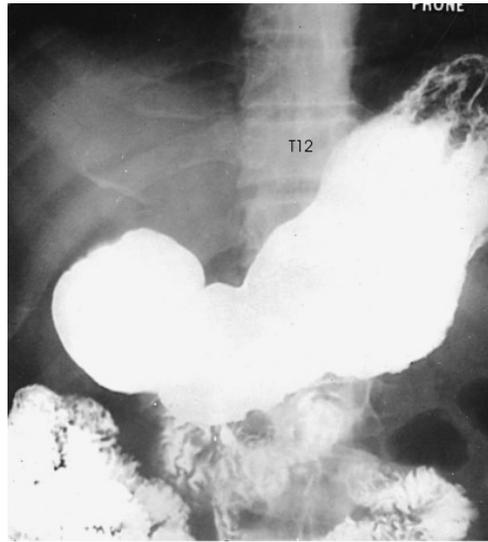
Stomach

Pyloric portion  
Duodenum

Small bowel loops

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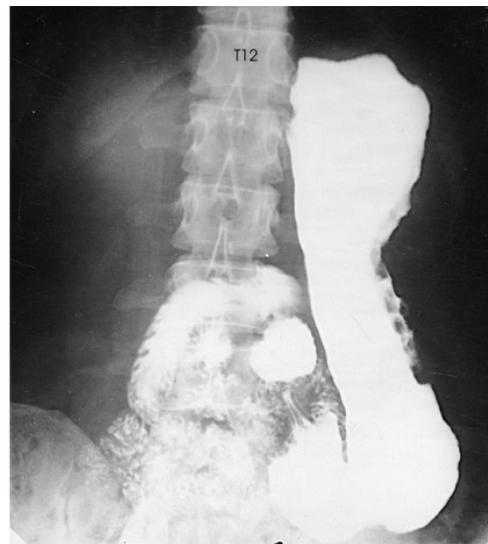
Hypersthenic



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Hyposthenic  
(Thin)



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Asthenic  
(VERY thin)



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Additional Information

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## Swallowing Dysfunction Study

- To study the mechanics of swallowing
- To see if the patient aspirates easily
- Most patients have suffered a stroke
- Speech pathologist performs exam in conjunction with fluoroscopy
- Various food/liquid densities used to verify ability to swallow each

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## Baby UGI

- No scout
- Lay down two lead aprons : one at baby's head and one at the feet.
- Wrap baby with sheet. Diaper only
- Fill baby bottle with thin barium.
- Using an 18g. needle, poke several holes on top of nipple.
- Place bottle to float in a cup of hot water.
- May need two bottles if baby drinks 4 oz or more at feeding (ask parent).
- Ask parent time of baby's last feeding
- Ask parent baby's birth weight and current weight
- One parent in the room – technologist and parent to help hold baby.

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## UGI via NG tube

- Scout KUB
- Patient in LPO (use angle sponge), semi-erect
- Thin barium in a cup
- Using a 60cc syringe, draw up the barium and inject into the NG tube (As directed by Radiologist Assistant).
- Radiologist Assistants to take fluoro images as needed.
- Overheads as required for single contrast UGI.
- If barium is contraindicated, use Omni 240



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### Bariatric Fluoro Protocols

#### Types:

- Post Gastric Bypass
  - Roux-N-Y Gastric Bypass, Long Limb Gastric Bypass, Post Vertical Band Gastroplasty
- Post Gastric Banding
- Post Gastric Sleeve
  - Vertical Gastric Sleeve
- Post Gastric Sleeve with Duodenal Switch
  - Vertical Gastric Sleeve

#### Variations in Procedures:

- Scout images are taken of the high abdomen (to include diaphragm)
- Procedures begin with Omniopaque or Barium in medicine cups
  - If surgery was within 6 months, Omniopaque 240 and Water is mixed
  - If surgery is greater than 6 months out, Liquid EZ Paque
    - Post Gastric Bypass – 20cc
    - Post Gastric Banding – 20cc
    - Post Gastric Sleeve – 40cc
    - Post Gastric Sleeve with Duodenal Switch – 40cc
- The Radiologist Assistant will have the patient drink the remaining Liquid EZ Paque through a straw in the RAO position.
- Post Procedure images may be required dependent on the type of bariatric surgery
  - Post Gastric Bypass – AP or PA abdomen (to include GE junction and Small Bowel)
  - Post Gastric Banding – PA, RAO, Right Lateral
  - Post Gastric Sleeve – AP or PA abdomen (to include GE junction, stomach and duodenum) RAO and Right Lateral
  - Post Gastric Sleeve with Duodenal Switch – AP or PA abdomen (to include GE junction, stomach and duodenum) RAO and Right Lateral

\*\*\*Refer to the Fluoro Bible for more detail and up-to-date information\*\*\*

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