

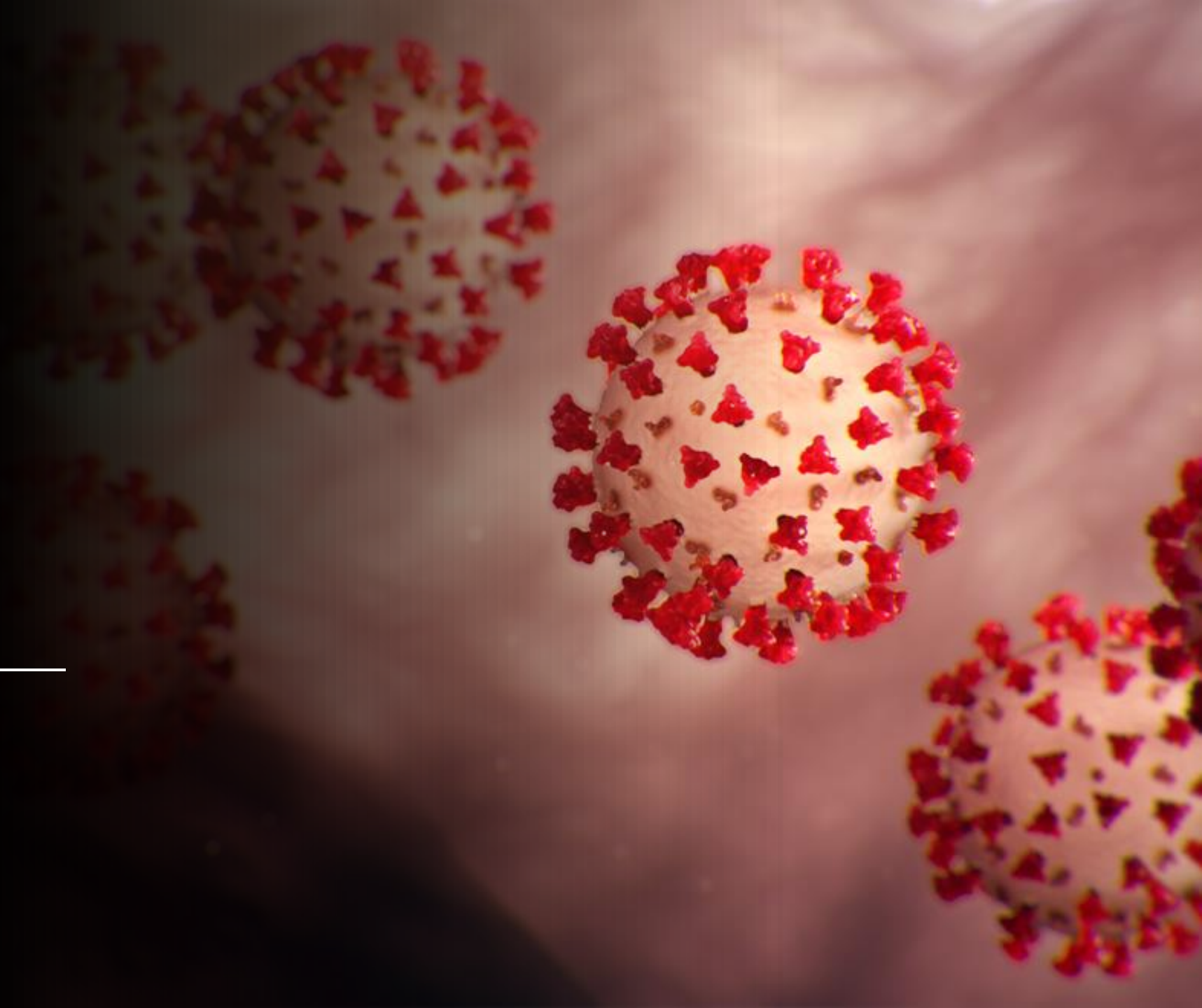


# Wuhan Virus COVID-19

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UF Health

North Tower Radiology Plan







# Document Scope

- What we are currently doing (that I know of)
- What we need to do to prevent transmission
- What we need to do to image/treat a COVID-19 patient

## China/Wuhan Virus (COVID-19) Interventional Radiology Plan

### Executive Order #20-72

"prohibited from providing any ... non-urgent or non-emergency procedure or surgery which, if delayed, does not place a patient's immediate health, safety, or well-being at risk or will, if delayed not contribute to the worsening of a serious or life-threatening medical condition."

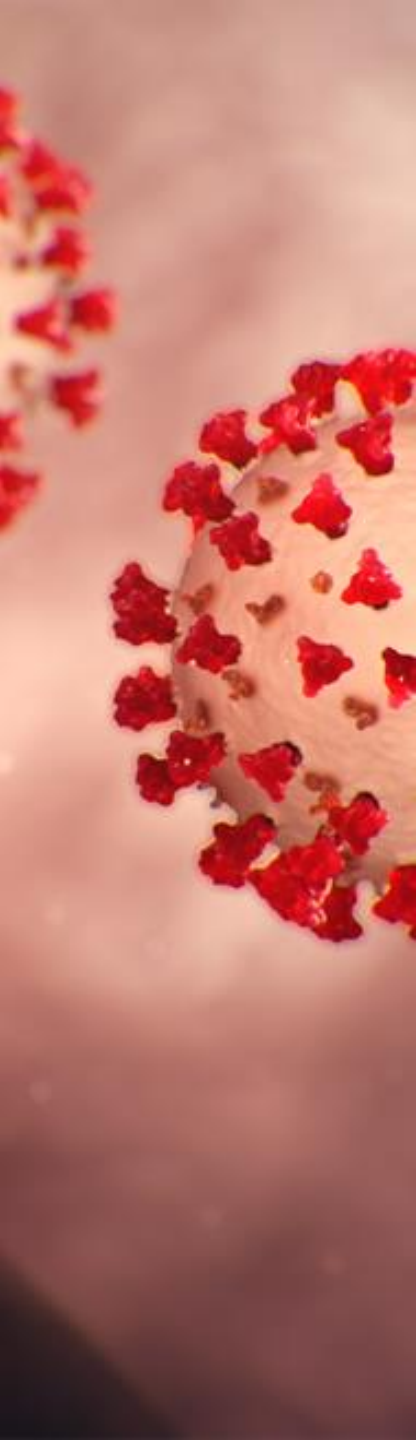
Category	I	II	III	IV	V
Definition	Risk of hospitalization and nosocomial COVID19 Infection outweighs benefit of surgical procedure.	Potential impact inpatient bed capacity or other resource.	Potential impact inpatient bed capacity or other resource.	No impact on inpatient bed capacity; discharge home on same calendar day.	Procedure cannot be delayed.
Status	Outpatients	Outpatients	Outpatients	Outpatients	ED / Inpatient
Acuity	Elective	Elective	Urgent	Elective / Urgent	Urgent / Emergent
COVID-19 Risk	High <ul style="list-style-type: none"> <li>Immunocompromised</li> <li>Elderly (over age 70)</li> <li>Respiratory disease: COPD, asthma, CF, etc.</li> <li>Other: ASA4, 5+ cardiac/respiratory meds</li> </ul>	Average	Risk assessment required	Risk assessment required	Risk assessment required
Procedures	<p>These procedures will NOT be performed:</p> <ul style="list-style-type: none"> <li>Visceral <ul style="list-style-type: none"> <li>CVL/port removal (completion of therapy)</li> <li>Embo: fibroid, gonadal vein, PAE (benign)</li> <li>Feeding tube exchange (routine)</li> <li>Hydrocele sclerotherapy</li> <li>IVC filter removal</li> <li>Nerve injections</li> <li>TIPS revision: ascites</li> <li>Varicose veins</li> <li>Venous sampling</li> <li>Vertebral augmentation</li> </ul> </li> <li>MSK <ul style="list-style-type: none"> <li>Soft tissue (trigger point) injection</li> </ul> </li> <li>Neuro/Spine <ul style="list-style-type: none"> <li>Sclerotherapy and Botox injections</li> </ul> </li> <li>Peds <ul style="list-style-type: none"> <li>Barium GI series for chronic conditions</li> <li>Renograms</li> <li>VCUGs</li> </ul> </li> </ul>	<p>These procedures and those from Category I will NOT be performed:</p> <ul style="list-style-type: none"> <li>Visceral <ul style="list-style-type: none"> <li>Embo: fibroid</li> </ul> </li> </ul>	<p>Only these procedures WILL be performed:</p> <ul style="list-style-type: none"> <li>Visceral <ul style="list-style-type: none"> <li>Angio +/- intervention*</li> <li>CVL/Port/PICC exchange or removal (malfunction or infected)</li> <li>CVL/Port/PICC placement**</li> <li>Dialysis procedures</li> <li>Embo: liver – tumor</li> <li>Embo: pulm AVM*</li> <li>G/GJ exchange – problem</li> <li>G/GJ placement*</li> <li>PCN exchange – problem</li> <li>PCN placement</li> <li>Percutaneous ablation</li> <li>PTHD placement</li> <li>PTHD exchange – problem</li> <li>TIPS placement: ascites*</li> <li>TIPS revision: bleeding</li> <li>Transjugular liver biopsy*</li> </ul> </li> <li>Biopsy (core or FNA)*</li> <li>Body <ul style="list-style-type: none"> <li>Paracentesis*</li> <li>Seroma/abscess drainage*</li> <li>Thoracentesis*</li> </ul> </li> <li>Neuro/Spine <ul style="list-style-type: none"> <li>Blood patch – multi-level*</li> <li>Lumbar puncture*</li> <li>Sclerotherapy – multi-staged*</li> </ul> </li> </ul>	<p>Only these procedures WILL be performed:</p> <ul style="list-style-type: none"> <li>Visceral <ul style="list-style-type: none"> <li>Catheter (any)/CVL exchange or removal</li> <li>Dialysis procedures</li> <li>Embo: gonadal vein, liver – tumor</li> <li>Feeding tube placement/change</li> <li>Hydrocele sclerotherapy</li> <li>IVC filter placement/removal</li> <li>Port/tunneled CVL placement</li> <li>TIPS revision: ascites</li> <li>Tunneled ascites catheter</li> <li>Varicose veins</li> <li>Venous sampling</li> <li>Vertebral augmentation, nerve injections</li> </ul> </li> <li>Body <ul style="list-style-type: none"> <li>Biopsy: Breast, lymph node, low risk abdominal mass/soft tissue, thyroid FNA</li> <li>Paracentesis</li> <li>Seroma/superficial abscess drainage</li> <li>Thoracentesis</li> </ul> </li> <li>MSK <ul style="list-style-type: none"> <li>Arthrocentesis</li> <li>Biopsy</li> <li>Soft tissue (trigger point) injection</li> </ul> </li> <li>Neuro/Spine <ul style="list-style-type: none"> <li>FNA/biopsy</li> <li>LPs/Myelograms</li> <li>Sclerotherapy and Botox injections</li> </ul> </li> </ul>	All cases considered urgent or emergent will be performed.
<p><b>Radiology Care Unit Changes</b></p> <ul style="list-style-type: none"> <li>Separation into high risk and average risk zones <ul style="list-style-type: none"> <li>High risk patients will enter from the back door of the RCU</li> <li>High risk patients will be transported with a surgical mask</li> <li>Average risk patients will enter from the main door</li> </ul> </li> <li>Patients will be placed into alternating bed spaces to increase patient distancing</li> </ul>					

Elective: Can be delayed indefinitely without patient harm

Average: Absent of Cat I risks

\*Case by case basis | \*\*If being used for treatment during EO

Revision 1.2 – 03/21/2020



III
Potential impact inpatient bed capacity or other resource.
Outpatients
<b>Urgent</b>
Risk assessment required
Only these procedures WILL be performed:
<ul style="list-style-type: none"><li>• Visceral<ul style="list-style-type: none"><li>➢ Angio +/- intervention*</li><li>➢ CVL/Port/PICC exchange or removal (malfunction or infected)</li><li>➢ CVL/Port/PICC placement**</li><li>➢ Dialysis procedures</li><li>➢ Embo: liver – tumor</li><li>➢ Embo: pulm AVM*</li><li>➢ G/GJ exchange – problem</li><li>➢ G/GJ placement*</li><li>➢ PCN exchange – problem</li><li>➢ PCN placement</li><li>➢ Percutaneous ablation</li><li>➢ PTHD placement</li><li>➢ PTHD exchange – problem</li><li>➢ TIPS placement: ascites*</li><li>➢ TIPS revision: bleeding</li><li>➢ Transjugular liver biopsy*</li></ul></li><li>• Biopsy (core or FNA)*</li><li>• Body<ul style="list-style-type: none"><li>➢ Paracentesis*</li><li>➢ Seroma/abscess drainage*</li><li>➢ Thoracentesis*</li></ul></li><li>• Neuro/Spine<ul style="list-style-type: none"><li>➢ Blood patch – multi-level*</li><li>➢ Lumbar puncture*</li><li>➢ Sclerotherapy – multi-staged*</li></ul></li></ul>

All urgent / emergent inpatient cases will be performed.

Non-emergent cases should be judged on a case by case basis, potentially discharged and seen in clinic when EO has expired. Examples include:

- TIPS for ascites
- Filter removal
- Vertebral augmentation





# IR Clinic

- All elective procedures postponed
- All appointments for non-urgent procedures postponed
- All appointments for urgent procedures (cancer treatment) moved to Zoom-PHI if possible



# Reduce Possible Transmission in RCU

- Patients bedded in every other space
- High risk patients
  - Escorted by RCU nurse through back door
  - Use beds closest to G205
  - Transported with standard mask
- Low risk patients use space near rooms A & B
- Nurses should only cover one side of the RCU



# Institutional Issues

- Patient screening and patient floor/area lockdown
- Employee temperature screening
- Closing/segmenting/reducing eating areas





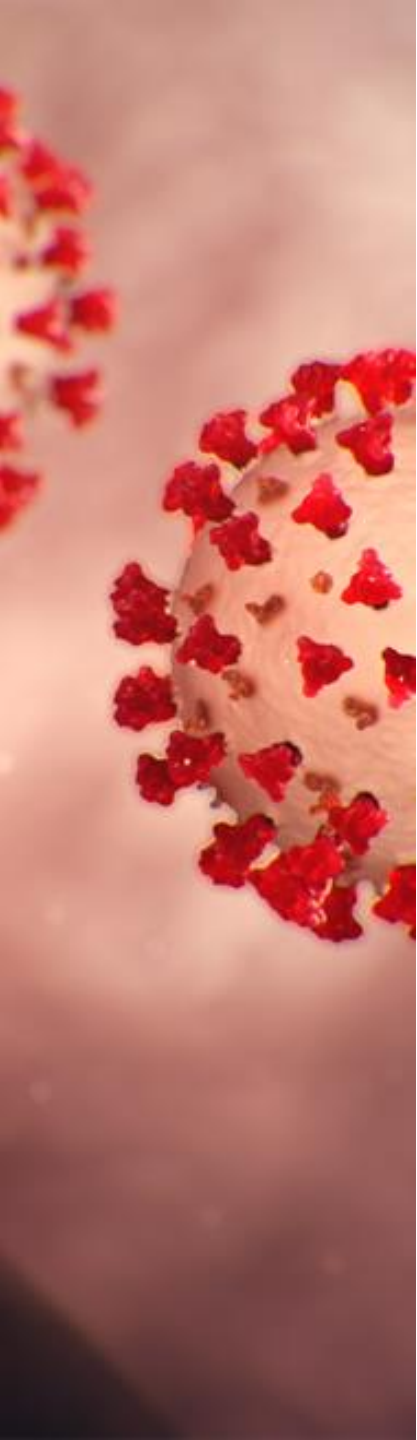
# Department Issues

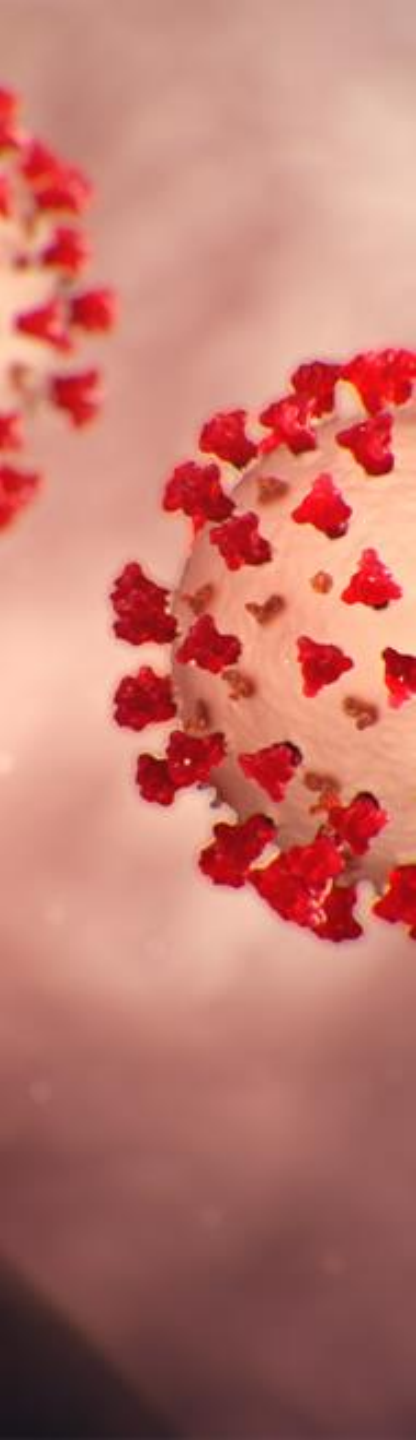
- Remove breakroom seating to decrease risk
- Reduce patient waiting area by 50% and have them wait upstairs
- Should physicians/staff be put on teams to make sure one team is available if the other is quarantined? How many teams? How often are their shifts?
- PPE training, both donning and doffing (most important)
- Shower
  - Possible staff contamination will require easy access to shower
  - Lockers should be removed from G370T
  - Carpeting should be removed from back hallway



# Department Issues

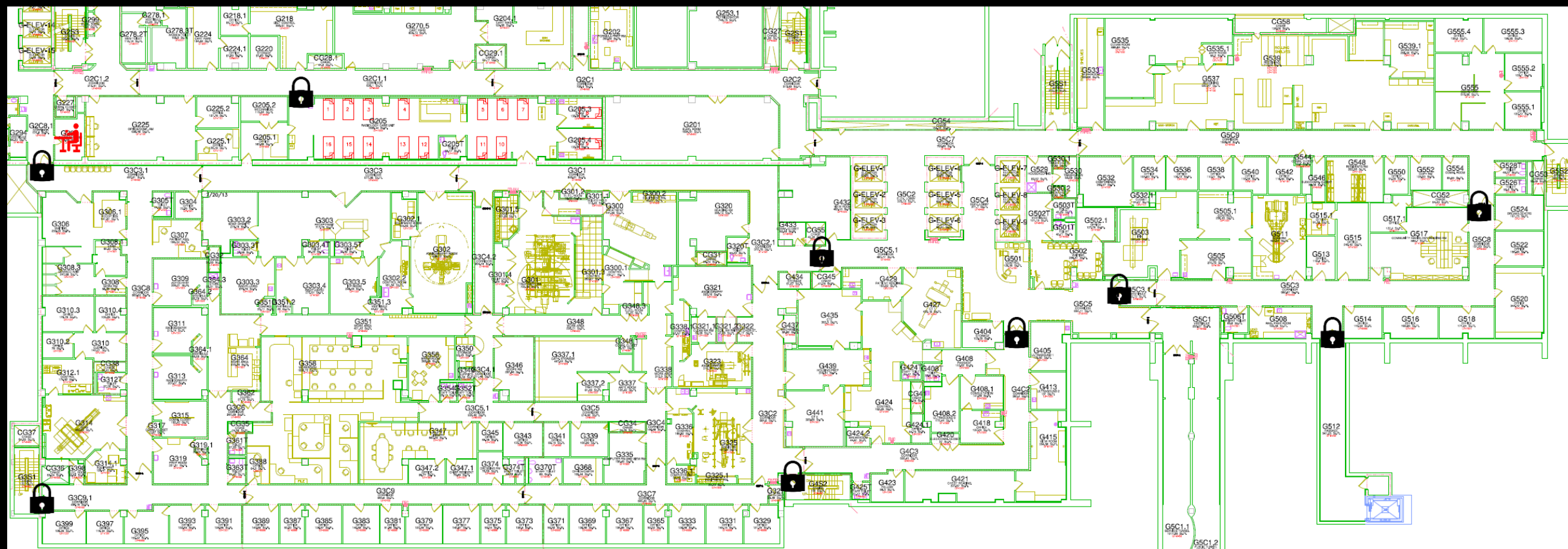
- Better communication – QD, QOD Zoom meeting?
- Inpatients vs Outpatients
  - AM (outpatients), PM (inpatients)?
  - Limit certain rooms to inpatient only?
- Rooms to have terminal cleaning each day with UV light
- Do we have enough CAPRs/PAPRs for N95 failures or aerosolizing procedures?
- Do we need to have negative air pressure in CT/IR for COVID-19 patients?
- Do we have enough eye shields/goggles?
- Move to all automatic doors in high traffic areas (including procedure rooms) – reduce risk of transmitting diseases





# Department Issues – Perimeter Control

- Screening point prior to entering department
  - Health declaration
    - No fever
    - No dry cough
    - No travel
  - Temperature
- Reduced foot traffic reduces risk
- Lock down & fob department







# IR Attending Staffing – Plan A

- Two teams
  - Alpha and Bravo
  - 3 Attendings, 2 fellows, 1-2 extenders
- All time off cancelled
- One week on, one week off
- Designated 1, 2, 3 – will rotate rooms every week
- When to start? 50 cases in Alachua? 100?

Call Grid

M	T	W	R	F
A1	A2	A1	A2	A3
B1	B2	B1	B2	B3
A2	A3	A2	A3	A1
B2	B3	B2	B3	B1
A3	A1	A3	A1	A2
B3	B1	B3	B1	B2



# IR Attending Staffing – Plan B

- Three teams
  - Alpha, Bravo and Charlie
  - 2 Attendings, 2? fellows, 1-2 extender
- All time off cancelled
- 2 days on/4 days off
- Designated 1, 2

Call Grid

M	T	W	R	F
A1	A2	B1	B2	C1
C2	A1	A2	B1	B2
C1	C2	A1	A2	B1
B2	C1	C2	A1	A2
B1	B2	C1	C2	A1
A2	B1	B2	C1	C2
A1	A2	B1	B2	C1

- When to start? 50 cases in Alachua? 100?



# COVID-19 Patient Requiring Radiology

- All imaging and procedures should be done bedside if possible
  - Plain film
  - Nucs (HIDA??, tagged RBC??)
  - Ultrasound: diagnostic and procedural
- MR: can another modality be used?
- Angio/Fluoro: Room 16
- CT
  - CT 2: All procedures and non-stroke CTs
  - CT 4: Stroke (procedure back up)
- Prefer to postpone case (if possible) to normal working hours for full staffing



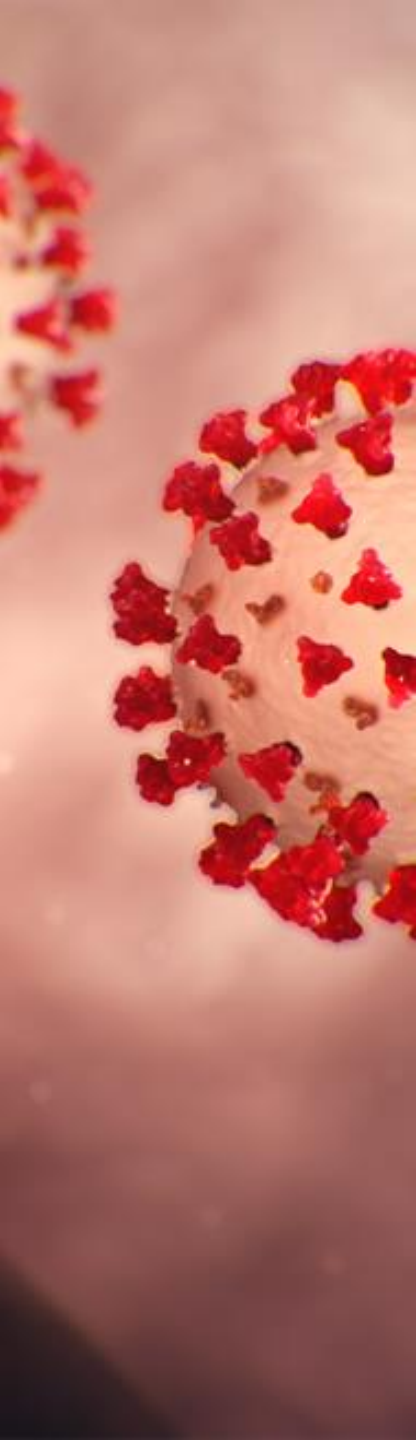
# Requirements for COVID-19 Patient

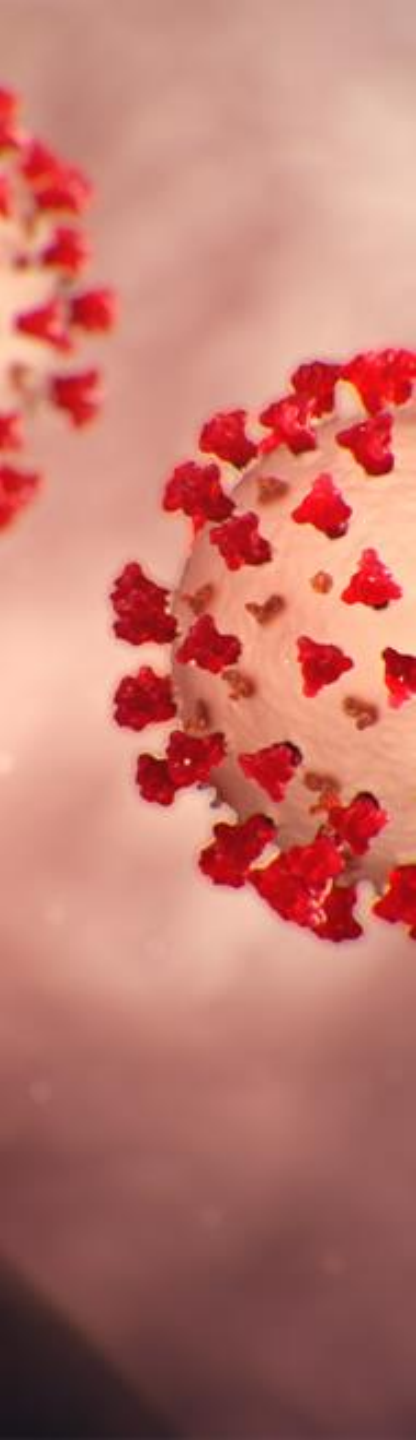
- Known transport plan
  - Security required
  - Secure entire transport path
  - Open all doors along path
  - Elevators need to be secured
  - Entire transport path to be cleaned after use (esp. elevator)
- Communication with radios (Shands should have available frequencies)
- Securing treatment area



# Requirements for COVID-19 Patient

- Signage must be created
  - DO NOT ENTER – INFECTED PATIENT
  - How to use PPE
  - How to remove PPE
  - Steps for moving through clean/dirty areas
  - Who to call (anesthesia, security, EVS)
  - COVID-19 SOP clearly outlined
  - Etc.
- Multiple barriers/curtains









# Requirements for COVID-19 Patient

- Additional support staff
  - Donning and doffing equipment
  - Setting up procedure room, clean and dirty rooms
  - Deploying security measures
    - Locking doors
    - Placing signs and barriers
  - Procedural assistance
- Will require additional 5-6 member COVID team in addition to standard room team (and call)
- All cases should be with anesthesia to prevent requiring respiratory or code team to enter room emergently



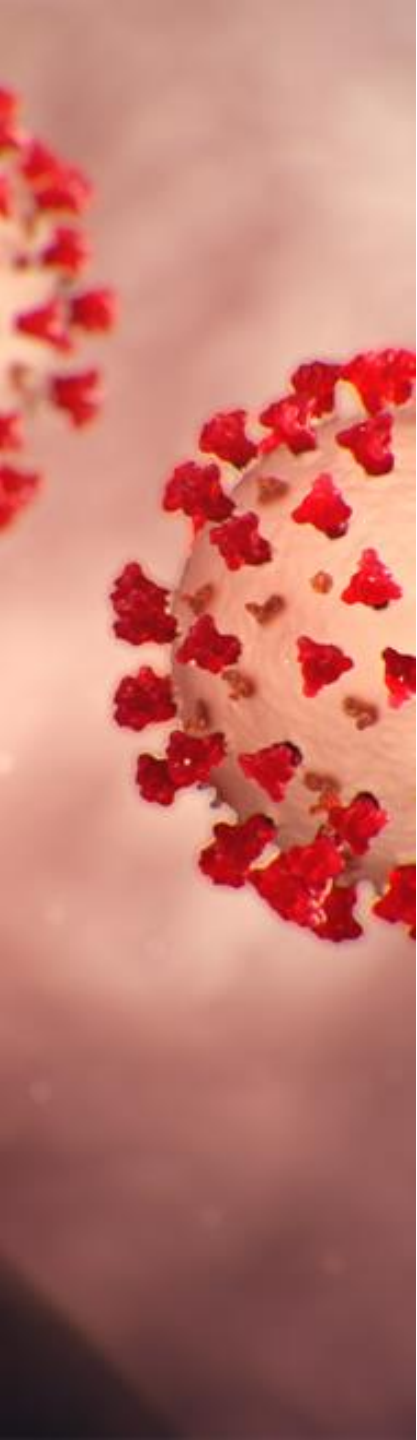
# Staff for COVID-19 Patient

	Staff	Role	Attire	Comments
<b>Support Team – No Patient Contact</b>				
CO	Controller	Maintains command and control of the entire event and to coordinate with various external parties	N95/eye protection	Radio
TC	Traffic Controller	Manages traffic at entry to department for all personnel involved in procedure as well as other parties e.g. staff and patients that use the same hallway	N95/eye protection	Radio
RT	Runner Tech	Circulates outside of room	N95/eye protection	Hands equipment over to CiT without direct physical contact Radio
CoT	Control Tech	Manages control room	N95/eye protection	Radio
<b>Procedural Team</b>				
ST	Scrub Tech	Operates equipment	Full PPE	
CiT	Circulating Tech	Circulates for procedure inside procedure room to minimize patient contact	Full PPE	Radio in lead pocket
IR	Interventionalist	Performs procedure	Full PPE	Attending only?
SN	Sedation Nurse	Looks after patient in procedure room	Full PPE	
AN	Anesthesia	Supports patient during procedure	Full PAPR/PPE	Attending only?

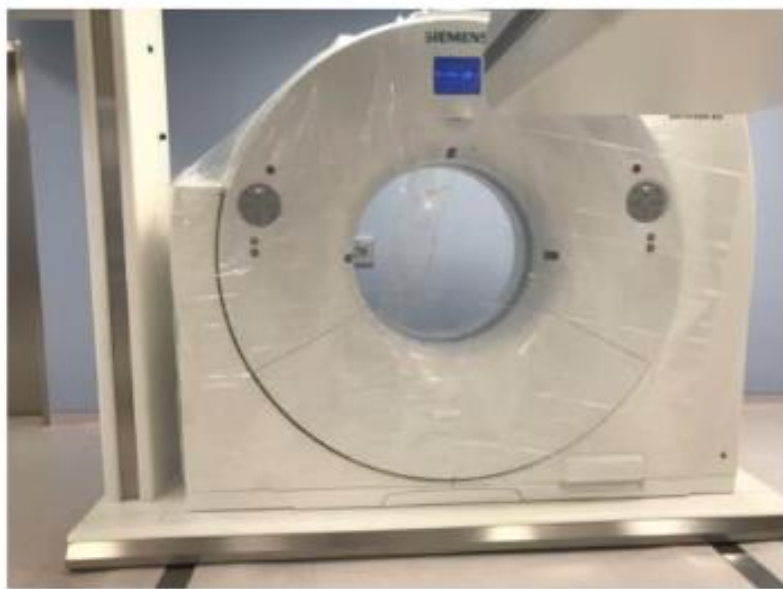
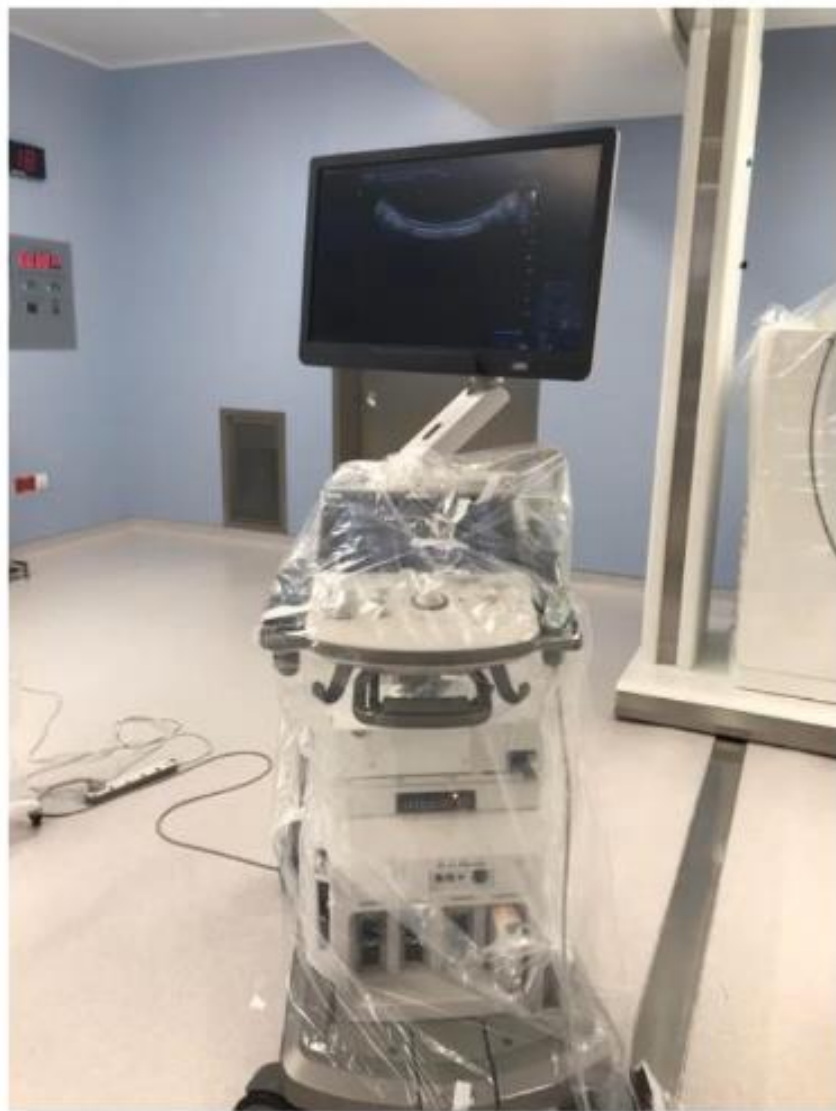
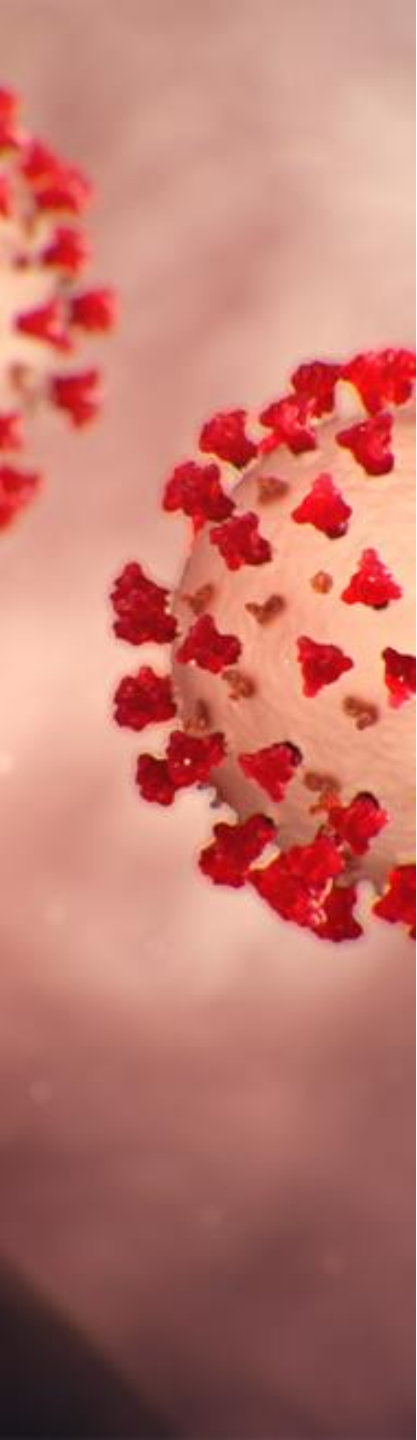


# Requirements for COVID-19 Patient

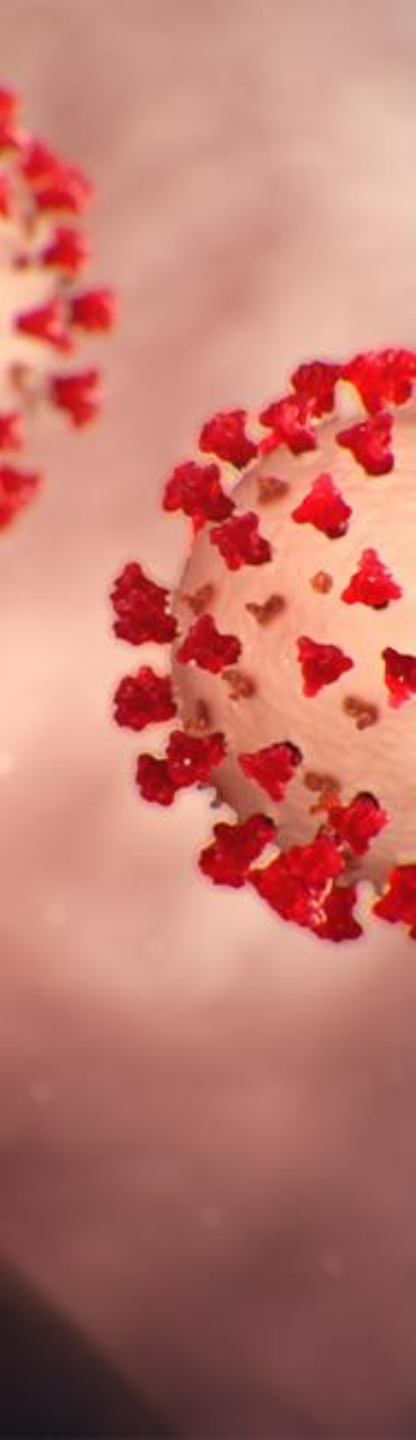
- Clean room (don) and dirty room (doff)
- Mirrors to assist in donning equipment
- Moving all extraneous equipment to clean room and covering remaining, unused equipment (visqueen)
- Shower after procedure or contamination
- Teams should have a change of clothes
- No unnecessary people in the room



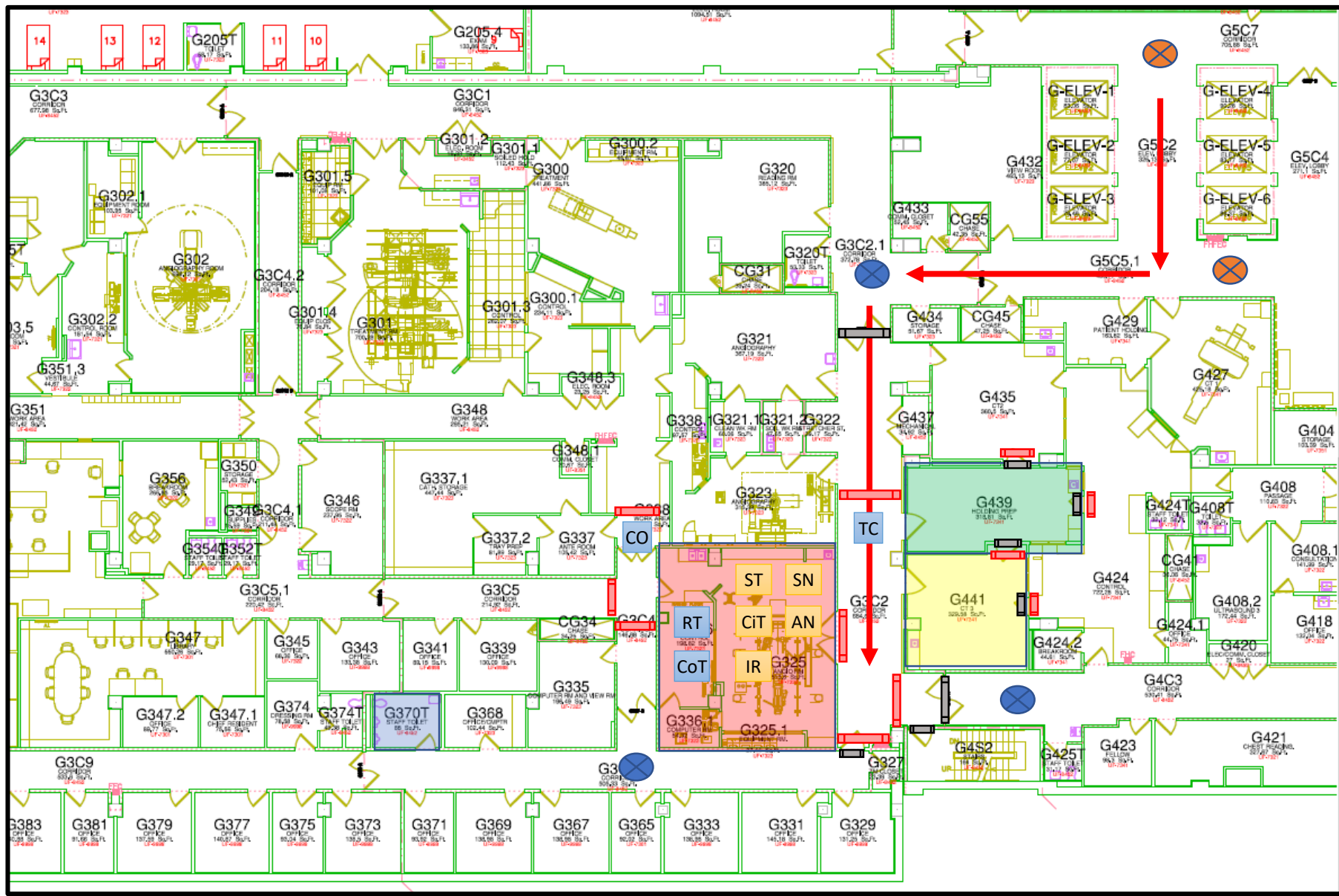




# Room 16 Procedure





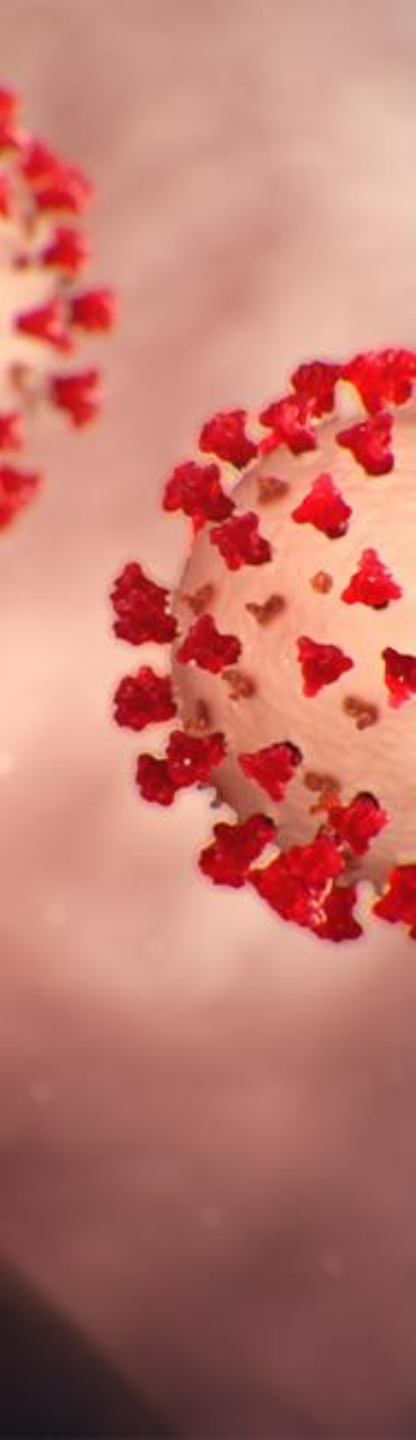


# Room 16





- G439 – Clean Room
- G441 – Dirty Room
- G325 – Room 16
- G370T – Shower

- Security
- Barrier/curtain
- Door shut/locked
- Patient path

# CT 2 Exam / Procedure

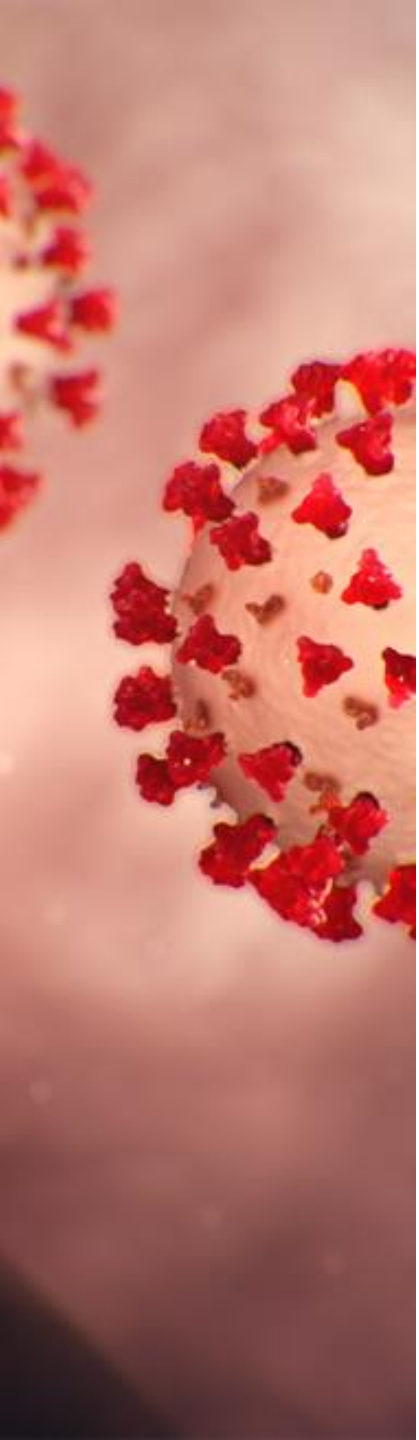


G441 – Clean Room  
G439 – Dirty Room  
G435 – CT 2  
G370T – Shower

-  Security
-  Barrier/curtain
-  Door shut/locked
-  Patient path

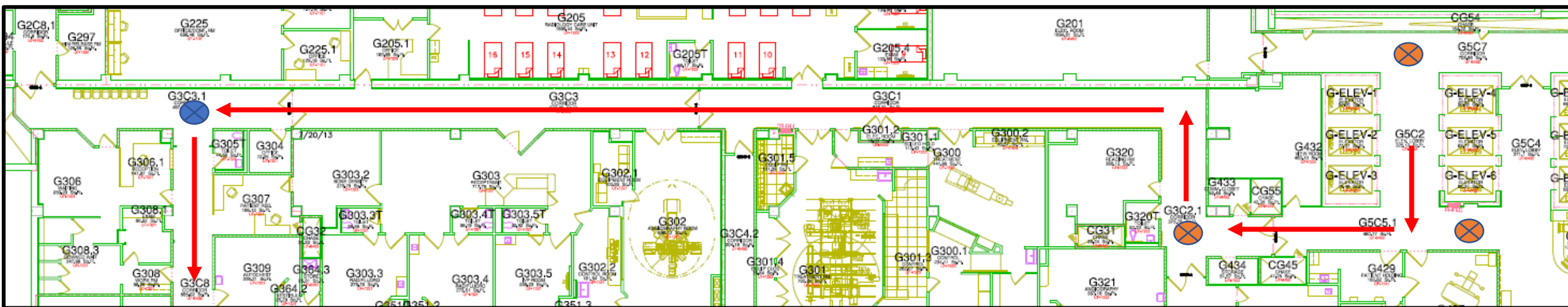
Note change in  
clean / dirty room

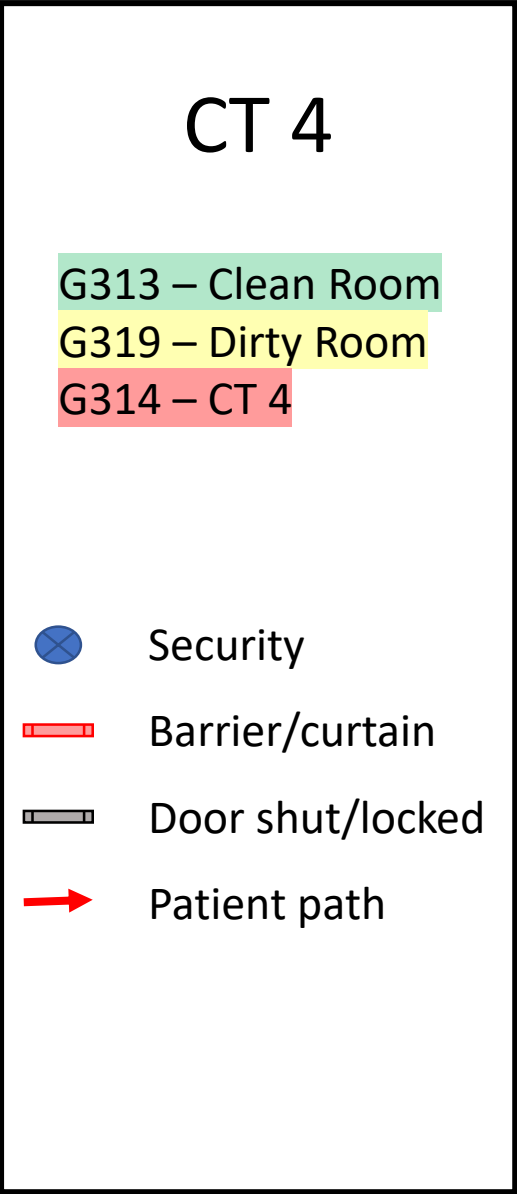
# CT 4 Exam / Procedure





# CT 4 Path









# CT 4

## G313 – Clean Room

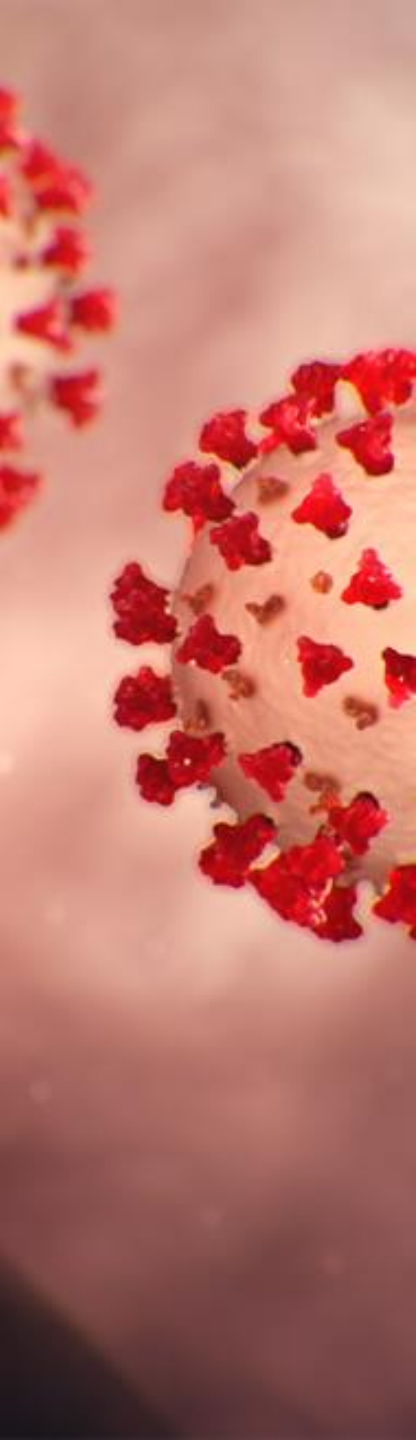
## G319 – Dirty Room

# G314 – CT 4

-  Security
-  Barrier/curtain
-  Door shut/locked
-  Patient path



MR / NucS – TBD





# Radiology: Pre-Procedural Steps

- Controller to gather team, assign roles and discuss case with all members of team
- Patient prep
  - Controller to liaise with floor, anesthesia and security staff
  - Floor to prepare to transfer patient
  - Security to clear route
  - Security meets floor staff at patient location
- Room prep
  - Procedure room cleared of non-essential equipment (put into clean room); remaining items wrapped
  - Clean and dirty rooms cleared and made ready
  - Signages and barriers placed



# Radiology: Pre-Procedural Steps

- Procedure team
  - Don full PPE
  - Perform buddy check
- When patient and room are ready, Controller sends for patient
- Transfer patient directly to procedure room



# Radiology: Intra-Procedural Steps

- Perform patient checks and transfer to table
- If required anesthesia performs intubation
- Procedure start – all Procedure team personnel remain in room in full PPE
- Patients bed to be cleaned and parked
- Equipment or drugs to be passed into IR suite from Support to Procedure team without physical contact



# Radiology: Post-Procedural Steps

- Controller informs floor staff & security
- Patient transferred to floor, escorted by floor staff and security
- Procedure team removes plastic wrapping and wipes down equipment
- Support Team dons PPE to remove PPE from Procedure team in designated order\* and locations\* and then proceed to shower
- Controller activates EVS to provide terminal cleaning of procedure and dirty room
- Lead should be cleaned

\*work in progress





# Bedside: Pre-Procedural Steps

- Controller to gather team, assign roles and discuss case with all members of team
- Gather necessary equipment for the procedure
- Proceed to floor
- Wrap imaging equipment



# Bedside: Intra-Procedural Steps

- Circulating Tech and Sedation Nurse to don full PPE, enter isolation room, speak with patient, conduct preprocedural checks with Control (radio)
- Scrub Tech enters in full PPE and assists Circulating Tech and Sedation Nurse to position patient
- IR enters in full PPE
- Team members clean and prep patient
- Start procedure



# Bedside: Post-Procedural Steps

- Procedure team to remove PPE and equipment per guidance
- Proceed to shower

# Bedside: Visual

