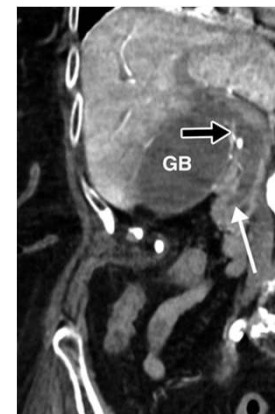
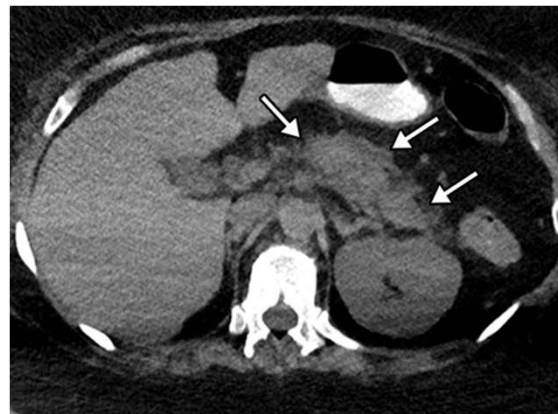
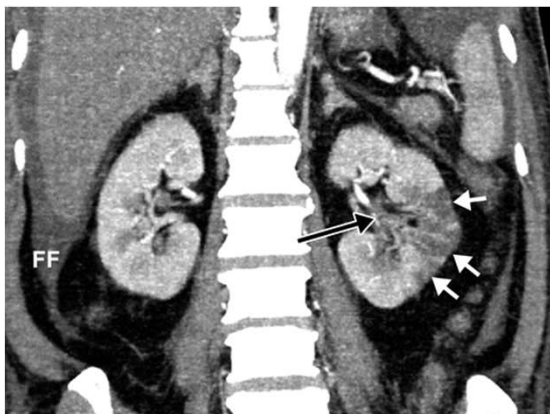
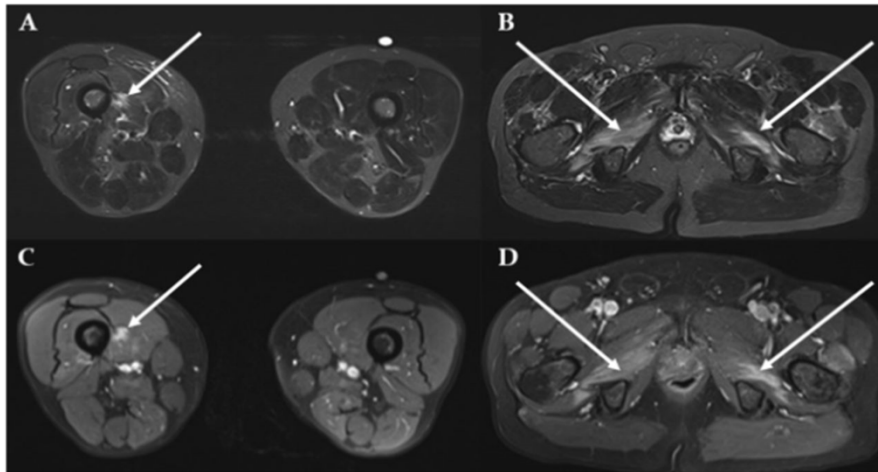
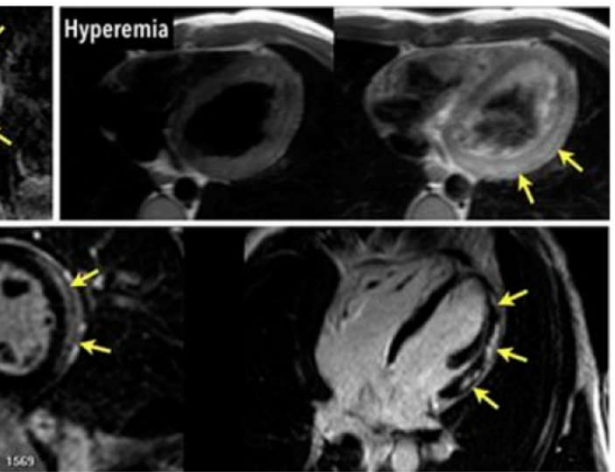
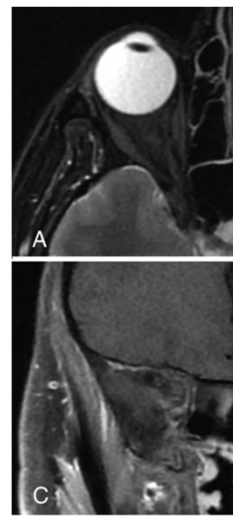
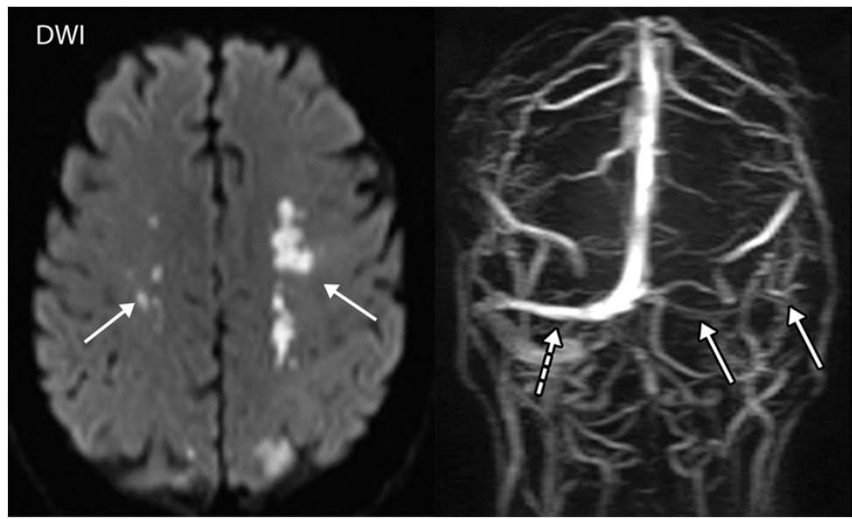
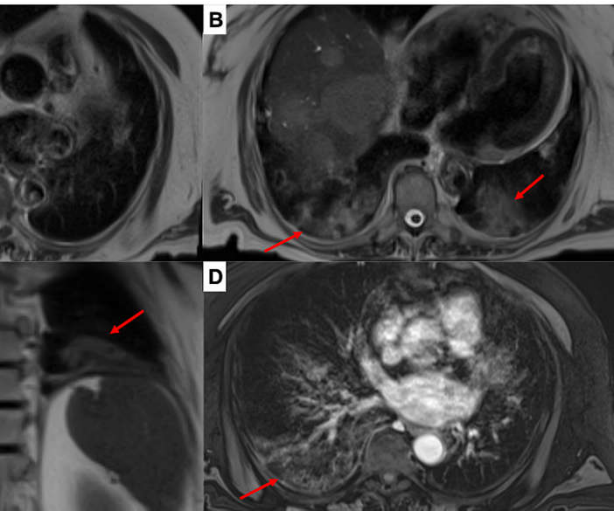


# RI MEDIC TRONG ĐẠI DỊCH SARS-COV2

BS Nguyễn Thành Đăng



# MỤC TIÊU

1. Hoạt động MRI an toàn trong mùa dịch.
2. Xử lý tình huống nếu có ca nghi nhiễm trong quá trình chụp MRI.
3. Chụp MRI với ca nhiễm Sars-Cov2.

**Check List for Ultrasound/Echo Procedures – these are in addition to the generic guidance within this document**

Title of COVID- 19 Check List	Sonographer / Sonologist / echo tech	Patient Considerations	Equipment Considerations	Imaging Room or Mobile Imaging Environmental Considerations
<p><b>Examination, during procedure considerations.</b></p>	<ul style="list-style-type: none"> <li>• Imaging requests should be triaged scan, can be delayed without impacting on clinical care or can be avoided until after the pandemic.</li> <li>• As per generic advice on PPE for all in close contact, remembering that sonography involves prolonged physical contact, often in a confined space.</li> <li>• Attempt to shorten the duration of the examination by arranging for the most experienced Sonologist / sonographer to perform the examination (<a href="#">ISUOG, 23.03.20</a>)</li> <li>• Fetal anomaly screening programmes are time critical and <b>we should continue to offer timely screening.</b> (RCOG guidance 24.3.20). In the event that there is insufficient staff to provide the service, scans should be prioritised in the following order:             <ol style="list-style-type: none"> <li>1. Anomaly scan at 18+0 -23+0 weeks</li> <li>2. Ultrasound +/- screening at 11+2 - 14+1</li> <li>3. Growth scans</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• As per generic advice – patients with COVID-10 to wear mask.</li> <li>• Schedule known Covid-19 patients last on list or last in day.</li> <li>• Patients should be asked to attend alone</li> <li>• Inform the patient that a detailed explanation will not be given during the examination (<a href="#">ISUOG, 23.03.20</a>)</li> </ul>	<ul style="list-style-type: none"> <li>• As per generic advice.</li> <li>• Set aside dedicated COVID-19 room / equipment / mobile / probe(s).</li> <li>• After use with each COVID-19 patient, clean all equipment in line with the principles and advice on couch cleaning in the Appendix.</li> </ul> <p>Remove all prober from the unit except the ones needed for the examination when performing exams mobile or in the designated exam room in order to avoid the necessity of high-level disinfection in the event the patient coughs or sneezes within the designated distance.</p>	<ul style="list-style-type: none"> <li>• As per generic advice.</li> <li>• Set aside dedicated COVID-19 room / equipment / mobile / probe(s). This should be a room with air exchange per hour (WHO guidance, <a href="#">PHE 6.4.20</a>)</li> <li>• Use of single-use gel packs is recommended as opposed to refillable gel containers (<a href="#">ISUOG, 23.03.20</a>).</li> <li>• Consider probe cover for non-endoluminal probes (this is a CDC absolute requirement (<a href="#">ISUOG, 23.03.20</a>)).</li> <li>• After use with each COVID-19 patient, clean all equipment in line with the principles and advice on couch cleaning in the Appendix.</li> </ul>

# Imaging Checklist

CT examination on Asymptomatic – Suspected – Confirmed COVID-19 Patients				
	Radiographer/RT Tasks	Patient Considerations	Equipment Considerations	Imaging Room Environmental Considerations
	<ul style="list-style-type: none"> <li>Ensure that patients and staff use the central entrance and do not enter the department without permission</li> </ul>	<ul style="list-style-type: none"> <li>Controlled arrival and</li> </ul>	Disinfection-Decontamination with the use of appropriate	Disinfection-Decontamination with the use of appropriate technique and
	<ul style="list-style-type: none"> <li>Ensure that the trolley or stretcher is removed from the examination room</li> </ul>	<ul style="list-style-type: none"> <li>Patient continues</li> </ul>	<ul style="list-style-type: none"> <li>CT Gantry controls and CM injector control screen keys</li> </ul>	
<b>Procedure</b>	<ul style="list-style-type: none"> <li>When entering the CT scanner room (dirty area), wear disposable gloves.</li> <li>Carefully remove the used paper cover from the CT couch without touching your clothing and dispose of it in the corresponding bin according to hospital policy.</li> <li>Ensure decontamination-disinfection of CT couch-gantry keypad, CM injector control panel and surfaces / contact points (sponges, fixing pads, knobs) by the use of a suitable disinfectant in accordance to Hospital Infectious Diseases Control Committee CT manufacturer's instructions.</li> <li></li> <li>After disinfection/decontamination/deep cleaning, the RG/RT must visually inspect the scanning area, CT scanner and auxiliary equipment without removing gloves and mask.</li> <li>Must not remove your mask yet!</li> <li>Carefully remove your gloves FIRST!</li> <li>Dispose of them in the Clinical Waste bin (yellow hazardous contaminated waste) in accordance with the</li> </ul>	<ul style="list-style-type: none"> <li>Patient keeps mask</li> </ul>	<ul style="list-style-type: none"> <li>Single use CT couch paper cover is removed and disposed of into the corresponding bin according to hospital policy.</li> <li>Disinfection-Decontamination-Deep Cleaning by the use of a suitable disinfectant in accordance to Hospital Infectious Diseases Control Committee CT manufacturer's instructions of:               <ul style="list-style-type: none"> <li>CT couch</li> <li>Gantry keypad</li> <li>Immobilization Velcro straps and positioning sponges,</li> <li>CM injector control panel</li> </ul> </li> </ul>	Disinfection-Decontamination cleaning of: <ul style="list-style-type: none"> <li>surfaces</li> <li>contact points (knobs) by the use of a suitable disinfectant in accordance to Hospital Infectious Diseases Control</li> </ul> <p>In case of contamination i.e. if mask is removed during a procedure during an Aerosol producing procedure ensure that the CT unit examination is disinfected accordingly and ventilated adequately for 30-60 minutes (based on local practice recommendation) before the next examination.</p>

onance Checklist

MRI EXAMINATION FOR ALL PATIENTS ATTENDING THE DEPARTMENT				
	Radiographer/RT Tasks	Patient Considerations	Equipment Considerations	Imaging Room Environmental Considerations
	<ul style="list-style-type: none"> <li>Reschedule all non-urgent MRI Examinations</li> <li>Single patient attendance wherever possible</li> <li>Ensure request are categorised as urgent and justified by Radiologist with protocol agreed</li> </ul>	<ul style="list-style-type: none"> <li>Controlled arrival and departure of patients and</li> </ul>	<ul style="list-style-type: none"> <li>Remove all unnecessary equipment from the Preparation and scan</li> </ul>	<ul style="list-style-type: none"> <li>Ensure high standards of infection prevention measures at all times</li> <li>Disinfection-Decontamination with the use of appropriate technique</li> </ul>
<b>During</b>	<ul style="list-style-type: none"> <li>The Radiographers/ Techs within the scan room should confirm the Patients ID / MRI safety status etc. to the Radiographer/Tech in the control room via the intercom.</li> </ul>	<ul style="list-style-type: none"> <li>Patient continues to wear mask if COVID-19 suspected or</li> </ul>	<ul style="list-style-type: none"> <li>Gantry controls must only be used by the Non-Contact Radiographer/Tech.</li> </ul>	
<b>Post procedure</b>	<ul style="list-style-type: none"> <li>All Images reviewed, processed and uploaded to PACS Immediately.</li> <li>Radiologist must be available to review Images prior to the Patient being removed from the scanner to ensure no additional imaging is required.</li> <li>Patient to be removed from scan room and transferred from the department as soon as possible.</li> <li>After disinfection/decontamination/deep cleaning, the radiographer must visually inspect the scanning area, MRI scanner and auxiliary equipment without removing gloves and mask. In the case of positive patients, the room must be left for up to one hour due to the air flow around the MRI scanner. If the patient is not query or confirmed, then just ensure room is dry                             <ul style="list-style-type: none"> <li>Do not remove your mask yet!</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Patient keeps mask if wearing</li> <li>Patient transfer- PPE still in place</li> <li>Rapid reporting of results to aid patient management.</li> </ul>	<ul style="list-style-type: none"> <li>Single use MRI couch paper cover is removed and deposited of into the corresponding bin according to hospital policy.</li> <li>Disinfection-Decontamination-Deep Cleaning by the use of a suitable disinfectant in accordance to Hospital Infectious Diseases Control Committee MRI</li> </ul>	<ul style="list-style-type: none"> <li>Disinfection-Deep cleaning of                             <ul style="list-style-type: none"> <li>surfaces</li> <li>contact points (knobs) by a suitable disinfectant in accordance to Hospital Infectious Diseases Control</li> </ul> </li> <li>In case of contamination patient mask is removed procedure or during an producing procedure, ensure the MRI unit examining disinfected accordingly ventilated adequately for minutes (based on local recommendation) before examination.</li> </ul>

# li với nhân viên

ân chia lịch công tác hợp lý.

l Covid định kỳ.

ểm tra BN phải chặt chẽ hơn trước khi vào máy.

ân viên chủ yếu PPE (Personal Protective Equipment):

ta tay, khẩu trang, mặt nạ, mũ và áo choàng....

ợp nhanh, chính xác, trả kết quả nhanh nhất.



# Phòng MRI (Cho BN không mắc Covid)

ng đảm bảo nhiệt độ phòng phù hợp.

g hệ thống quạt hút đủ mạnh.

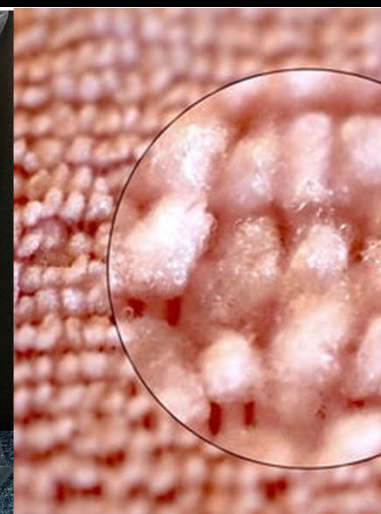
h dùng quạt thổi.

sinh phòng hoặc chỗ nằm bằng alcohol.

thiết bị MRI lau bằng vải mềm với nước ấm.

vật dụng có thể tiếp xúc với BN phải lau chùi

sau mỗi BN làm MRI.





# Với BN (và người thân đi cùng) không nhiễm Covid vẫn có khả năng nhiễm)

Đảm bảo BN đã qua khám sàng lọc.

Tránh để BN chờ quá lâu trong phòng MRI.

Giữ khoảng cách tối thiểu 1m (3 feet).

Trang phục không có kim loại. (Trang bị riêng cho BN).

Sử dụng tay y tế hoặc sát trùng tay trước khi vào phòng MRI.

Thời gian chụp phải nhanh nhất có thể.



**với BN nghi ngờ nhiễm covid trong quá trình chụp MRI.**

chụp bụng, nên chụp 1 xung fast MRI phổi (15S) tầm soát Covid).

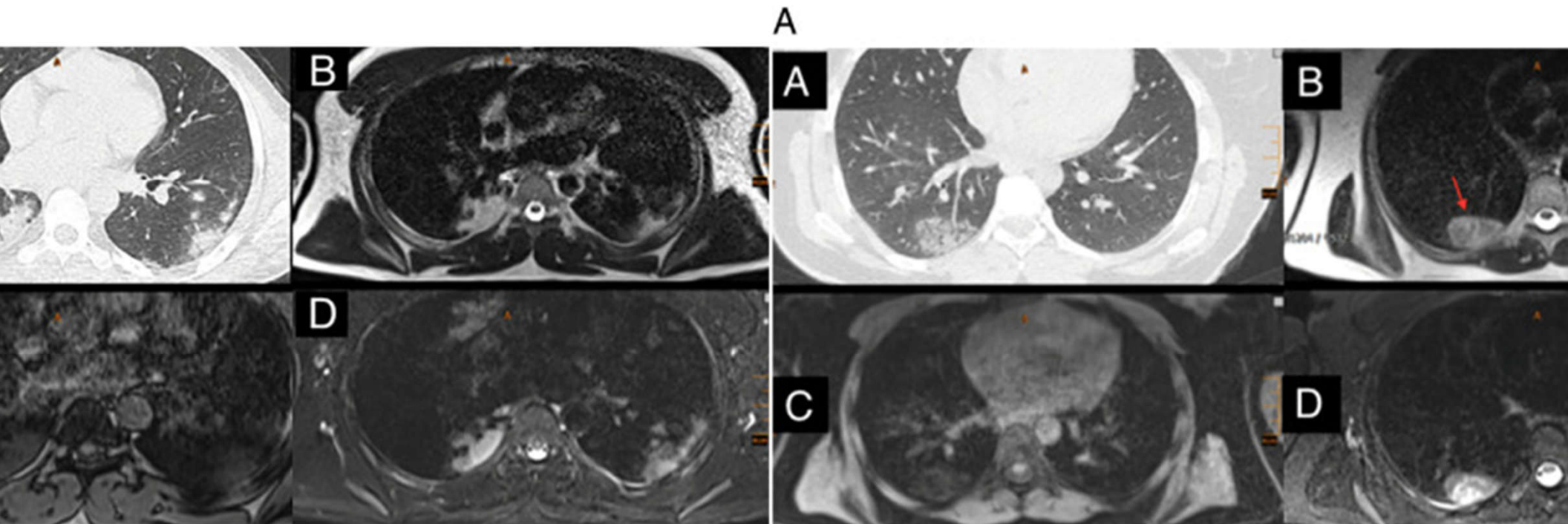
ng hoạt động phòng MRI và làm PCR: Dương tính:

lý theo quy trình chung của địa phương. (HCDC).

lý khử khuẩn ngay các thiết bị phòng MRI.

ử khuẩn thực hiện phải sau 30 – 60 phút kể từ khi BN rời phòng MRI.

y MRI hoạt động lại sau 48 giờ khử khuẩn.



# Liên lạc với BN đã bị nhiễm Covid (MRI biến chứng Covid).

Hiện tại tại Medic và các BV chưa làm.

Hiện nay các tổ chức nghiên cứu y khoa vẫn không khuyến cáo làm MRI cho BN nhiễm Covid (trừ trường hợp thật sự cần thiết). Cần thiết bị bảo hộ chuyên biệt cho BN. Cần máy điều hòa và quạt thông gió khi

làm MRI sau khi rời khỏi phòng từ 30 – 60 phút để tiến hành khử khuẩn.

Tất cả các bộ phận của máy MRI tiếp xúc với bệnh nhân đều được bao phủ bởi các túi bảo vệ dùng một lần, cho mỗi bệnh nhân.



CT/MRI Patient Safety Head Box LAKE, SMIT



# References

- <http://www.rubbermaidcommercial.com.au/blog/healthcare/preventing-hospital-acquisitions-in-the-mri-room/>
- [http://www.isrrt.org/pdf/NEW\\_ISRRT\\_COVID\\_19\\_Response\\_document\\_052020.pdf](http://www.isrrt.org/pdf/NEW_ISRRT_COVID_19_Response_document_052020.pdf)
- <http://www.acr.org/Clinical-Resources/Radiology-Safety/MR-Safety/COVID-19-and-MR>
- <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC7462889/>
- [http://www.researchgate.net/publication/344417351\\_Magnetic\\_resonance\\_imaging\\_of\\_coronavirus\\_disease\\_2019\\_COVID-19\\_pneumonia\\_The\\_first\\_preliminary\\_case\\_series](http://www.researchgate.net/publication/344417351_Magnetic_resonance_imaging_of_coronavirus_disease_2019_COVID-19_pneumonia_The_first_preliminary_case_series)