Interventional Oncology in COVID-19

Experiences and Lesions from Nanjing, China

Gao-Jun Teng, MD, FSIR, FCIRSE
Chair, Department of IR & Vascular Surgery
President, Zhongda Hospital, Southeast University
Nanjing, China

gjteng@seu.edu.cn

Disclosures

Gao-Jun Teng, MD, FSIR, FCIRSE: nothing to disclose

Brand names are included in this presentation for participant clarification purposes only.

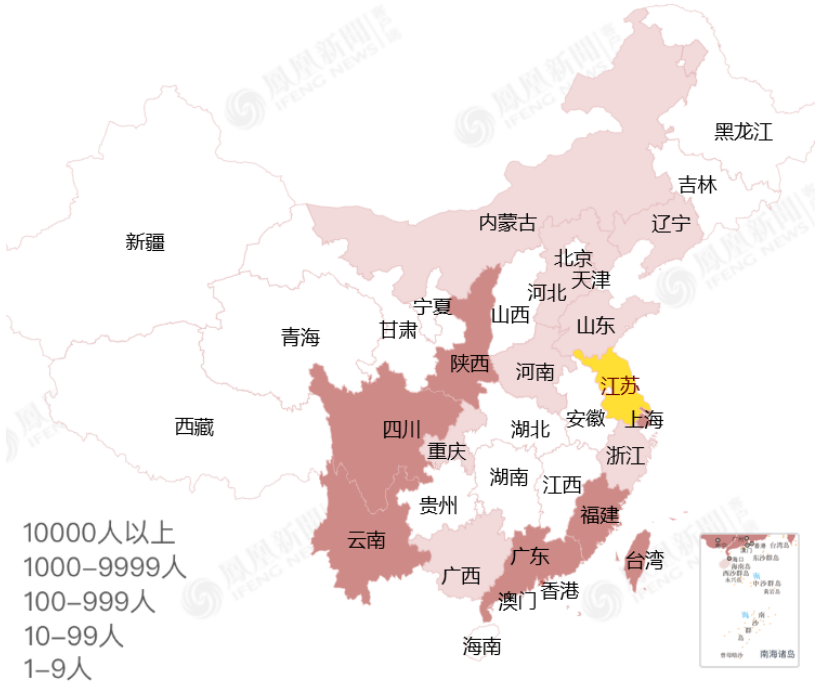
No product promotion should be inferred.

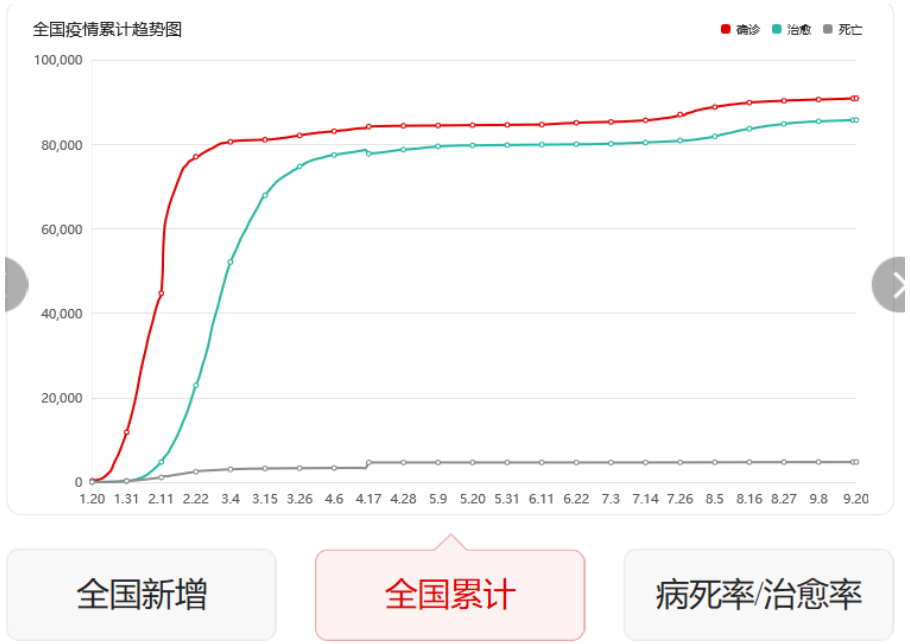
Background: Zhongda Hospital, Southeast University

- An academic and comprehensive medical center
- 2,000 beds, 2 million outpatients, 100,000 inpatients
- 106 dedicated IR beds
- 2,604 staff, 1,000 interns, residents, and fellows

- One of the four governmental-designated referring hospitals for COVID-19 patients' care in Nanjing

Background: Nanjing, Jiangsu Province





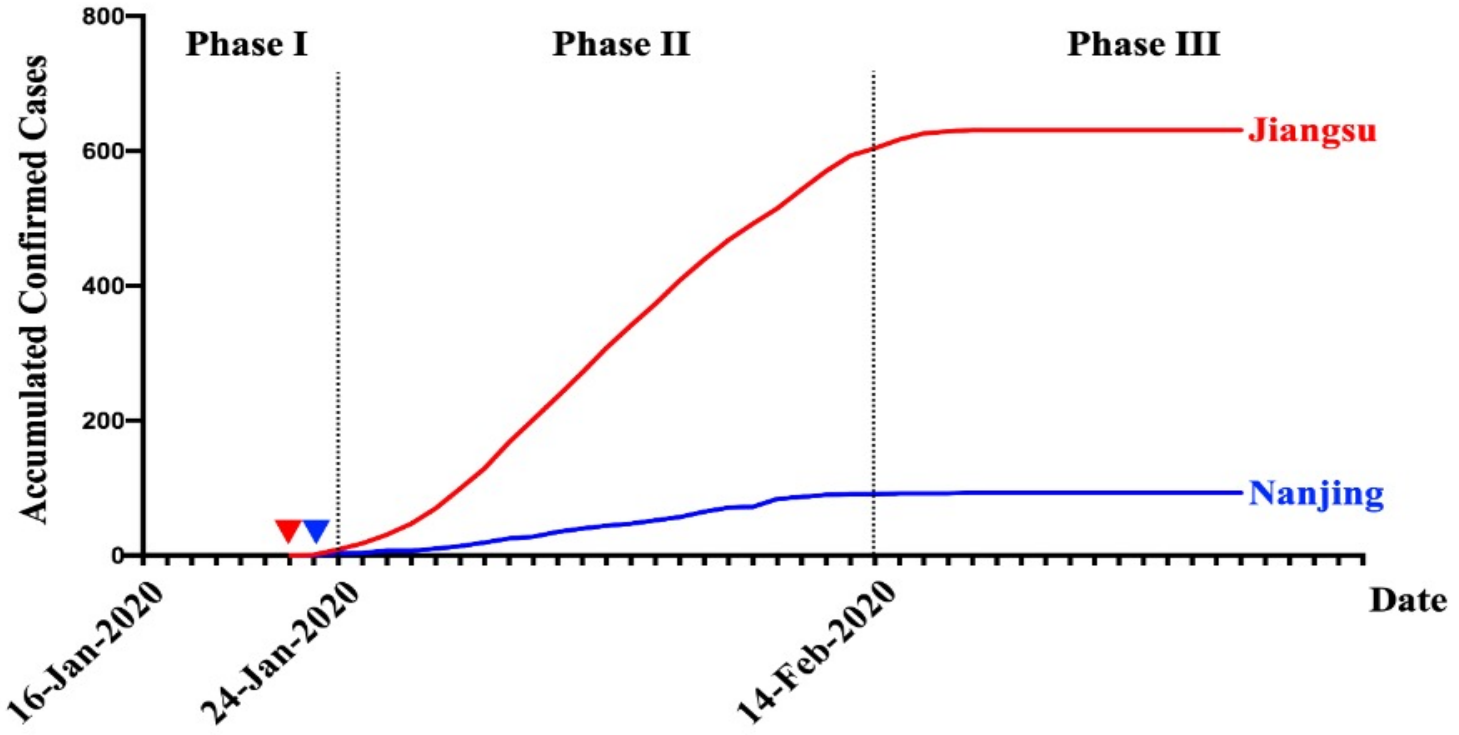
Jiangsu Province: Population: 80.7 million

Nanjing: Capital city of Jiangsu Province
Population: 8.5 million

Confirmed patients

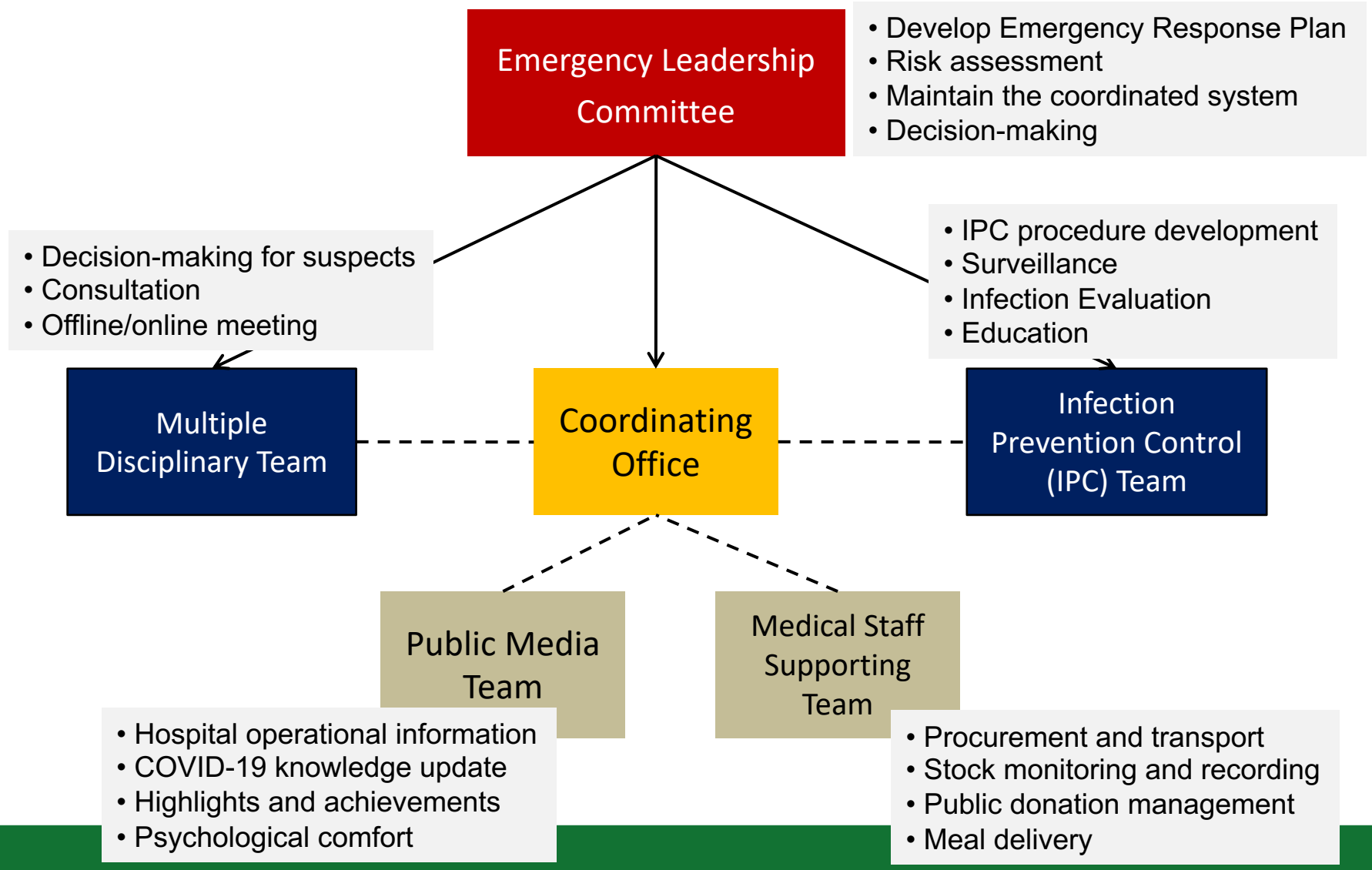
- Jiangsu: 664
- Nanjing: 93
- **Deaths**: 0

Response by Epidemic Staging in Nanjing, Jiangsu



- **Stage I**: the onset of the first case in Nanjing
- **Stage II:** Chinese New Year holidays and starting Level I emergency reaction
- **Stage III: t**he epidemic in China has been under control

Administrative Response



Response Strategies by Staging in My Hospital

	Duration	Local and China	Outside of China	Key Measures in Zhongda Hospital
Phase I	**Jan. 16 | Jan. 23**	• Declaration of human-to-human transmission • 600 cases nationwide with substantial increase • COVID-19 was ranked as Cat. B in China • Wuhan locked down the city • Nanjing's first confirmed case reported on Jan 23	• First case in the U.S., Japan, Thailand, Vietnam, etc. • Warnings for traveling and contacting Wuhan and China	• Emergency Leadership Committee and advanced IPC and MDT establishment • PPE and medical consumables reservation and preparation • Representative protocols for COVID-19 cases and regular medical services • COVID-19 education and training for physicians, nurses, and hospital staffs • Infrastructure modifications including the ward, fever clinic, quarantine unit, and operating theater
Phase II	**Jan. 24 | Feb. 14**	• Dramatic accumulation with more than 10,000 daily increase of confirmed and suspected cases in China • Level I emergency status declaration in multiple cities • Intercity traffic and transportation suspended • Severe shortage in medical supplies	• WHO determined a Public Health Emergency of International Concern • International traffic restriction on China announced by 130 countries and regions (as of Feb. 13)	• Strict in-hospital flow control, temperature and Covid-19 RT-PCR screening covered 100% visitors and
Phase III	**Since Feb. 15**	• Pandemics in China was under gradual control except Hubei Province • New challenges from social and industrial production recovery, and imported infections emerges • In Nanjing, a total of 93 Covid-19 were reported with no new case in 12 successive days (as of Mar. 1)	• Global spread in 58 countries with outpaced number over China (as of Mar 1) • Worldwide anxiety affected social and financial system	• Resumption of elective services under full monitoring Surgical and hospitalization workflow was individualized upon MDT evaluation and committee approval

- RT-PCR testing and testing, and CT scan
- Use high-level PPE such as N95 mask, gown, goggles, face shield, etc.

Infrastructure Modifications

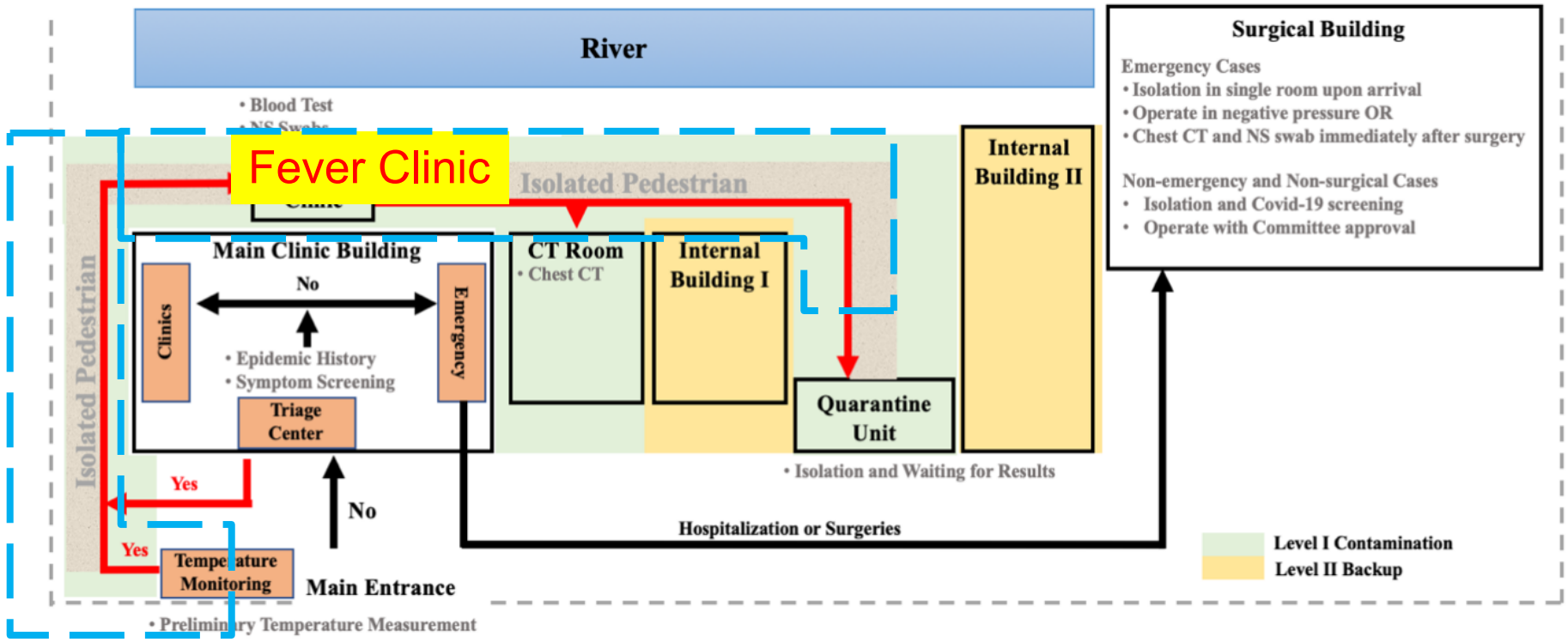
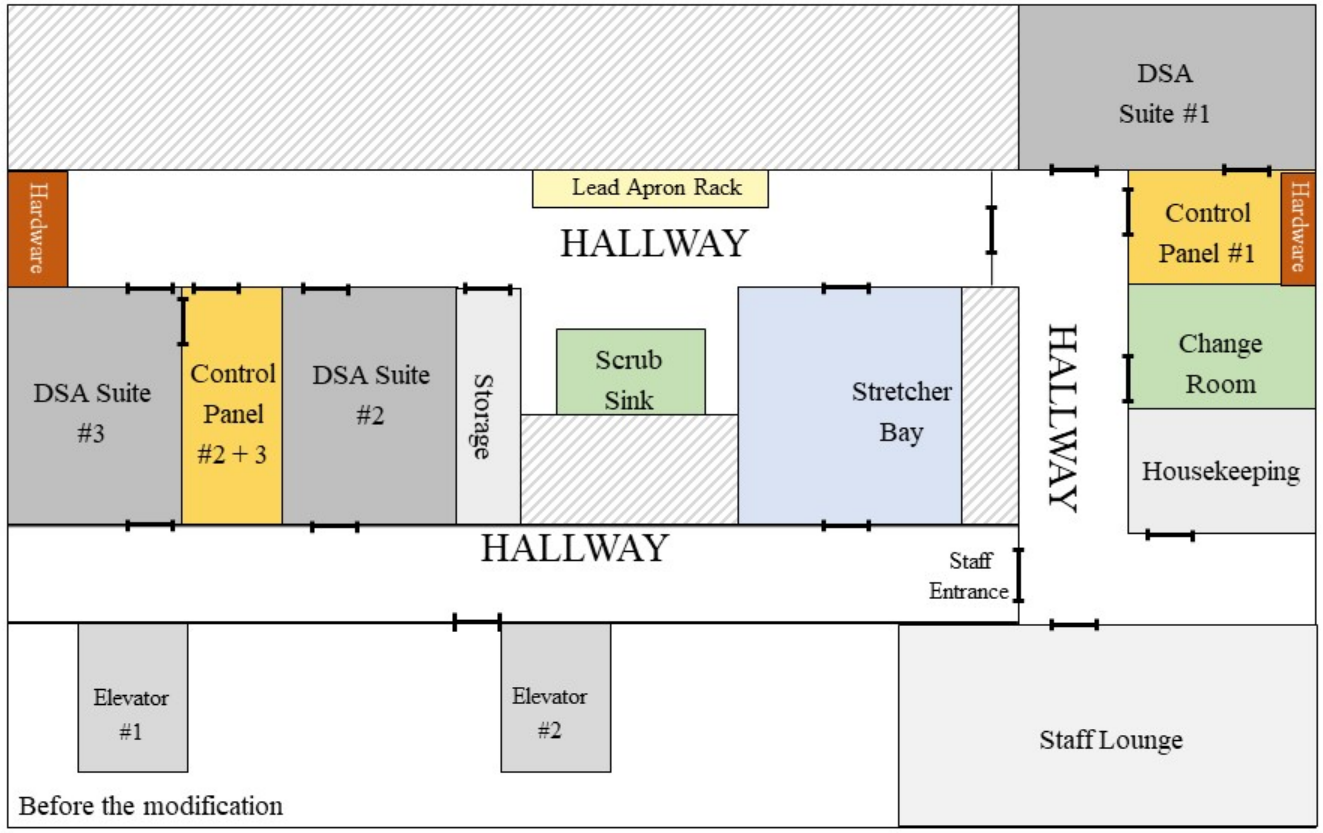


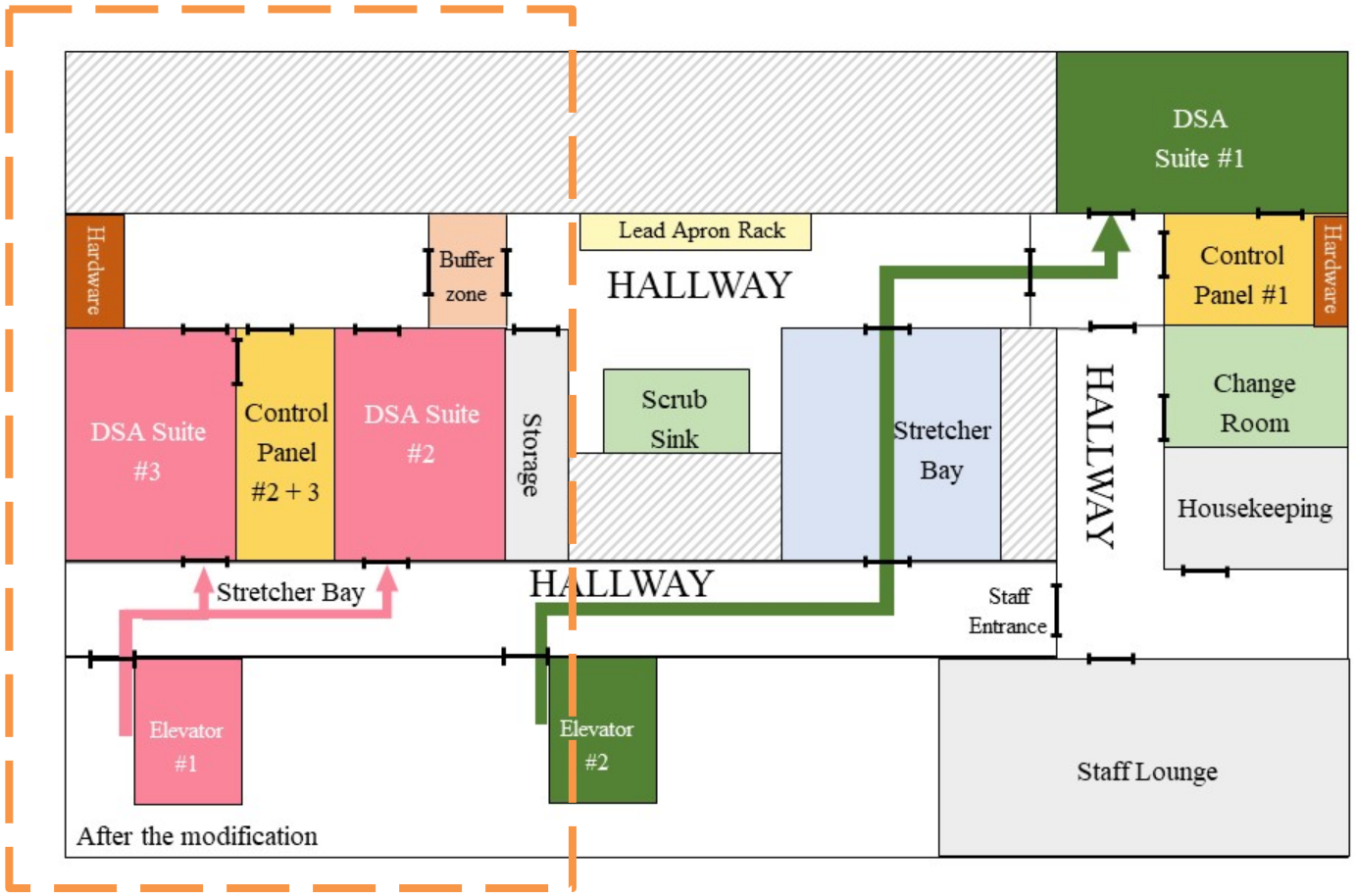
Illustration of the Quarantine Unit and backup area

Preparedness of Angio Suite



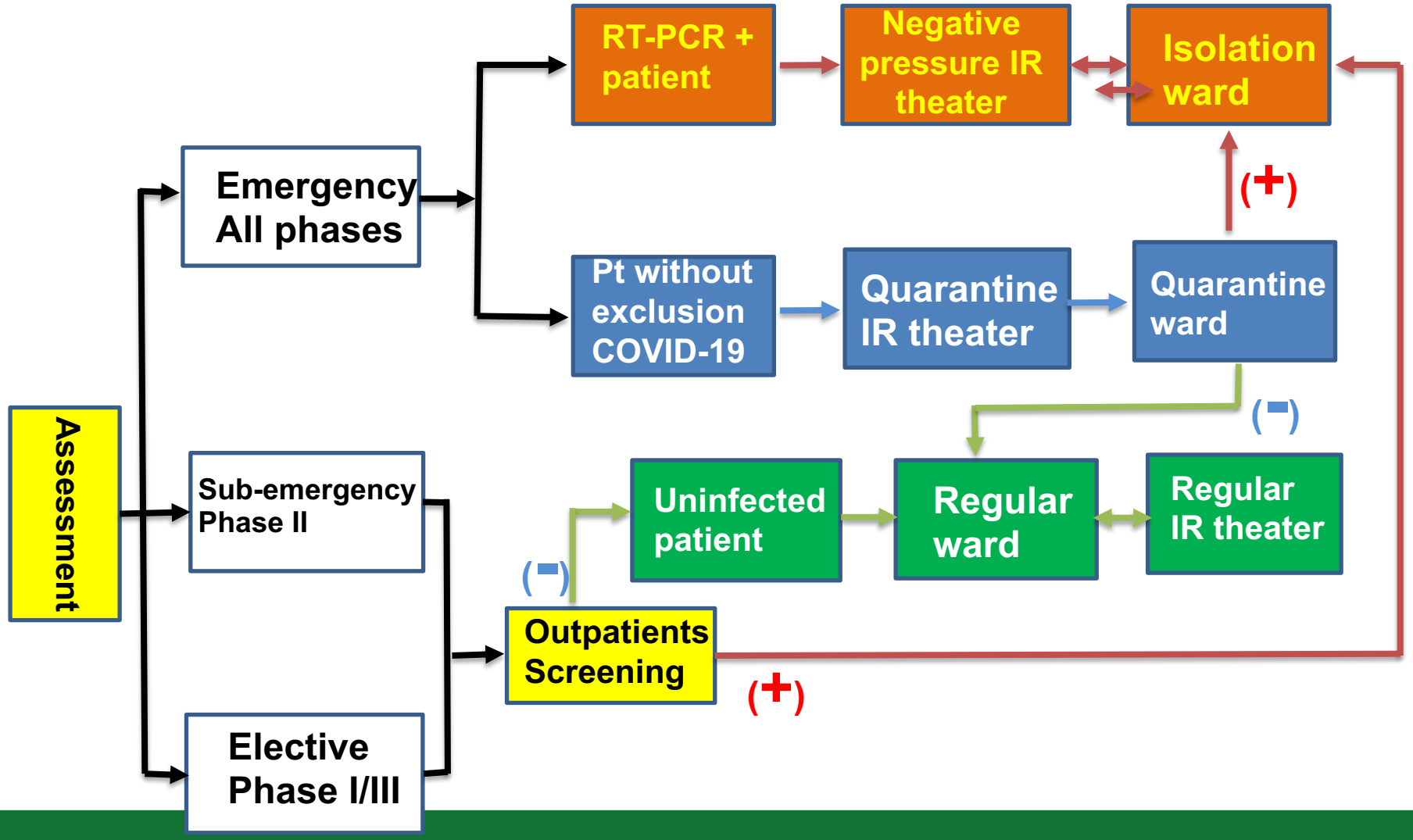
Premodification

Preparedness of Angio Suite

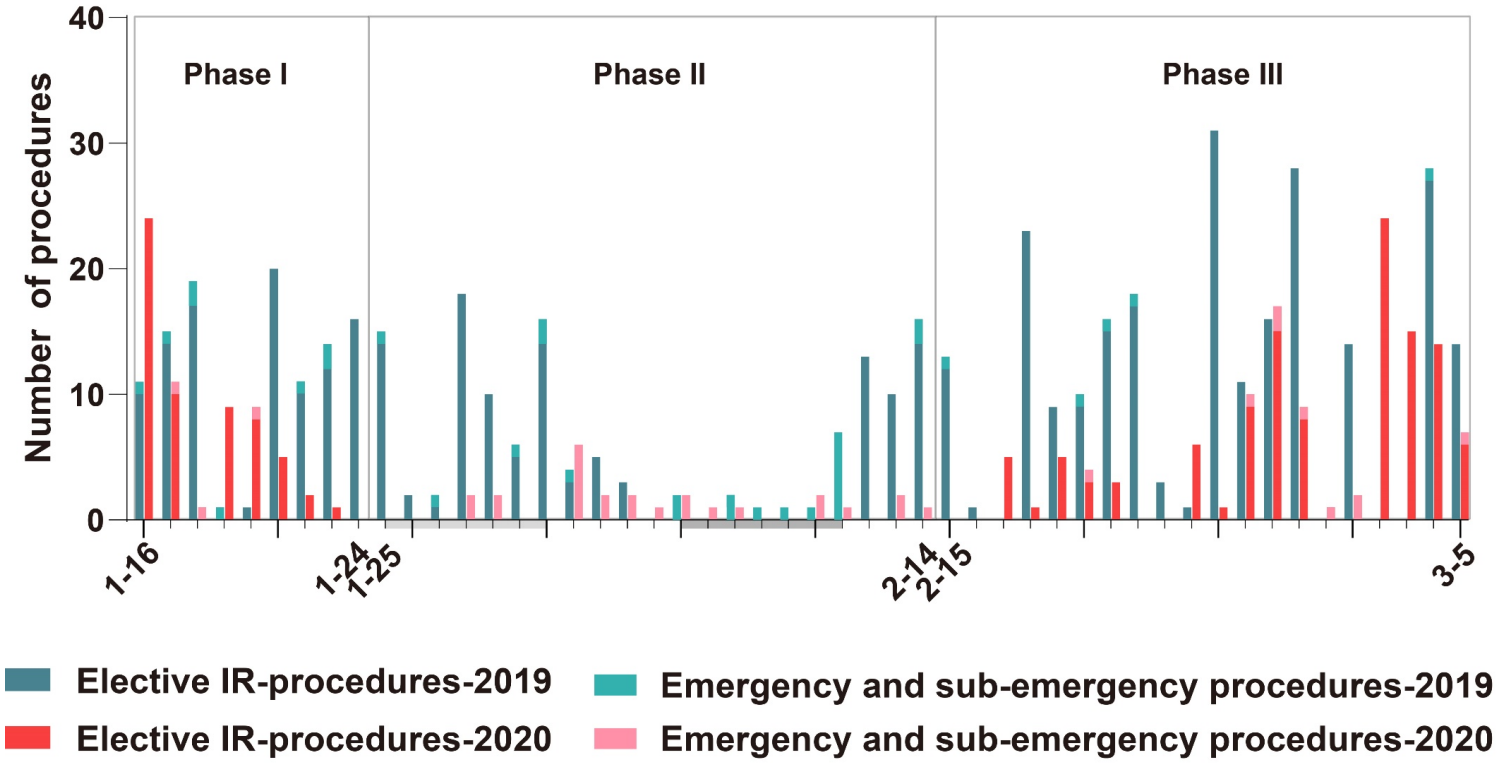


Post-modification

Workflow of IR Patients by Categories



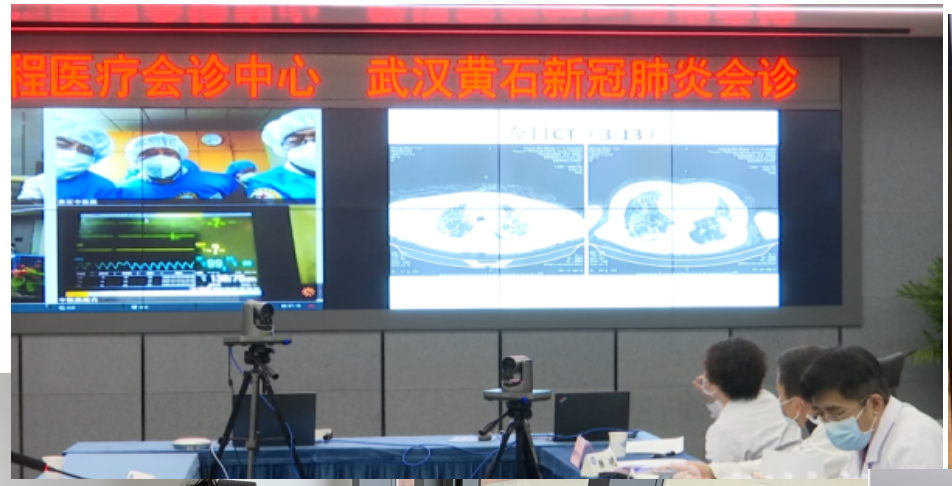
Work Volumes Compared Year-On-Year

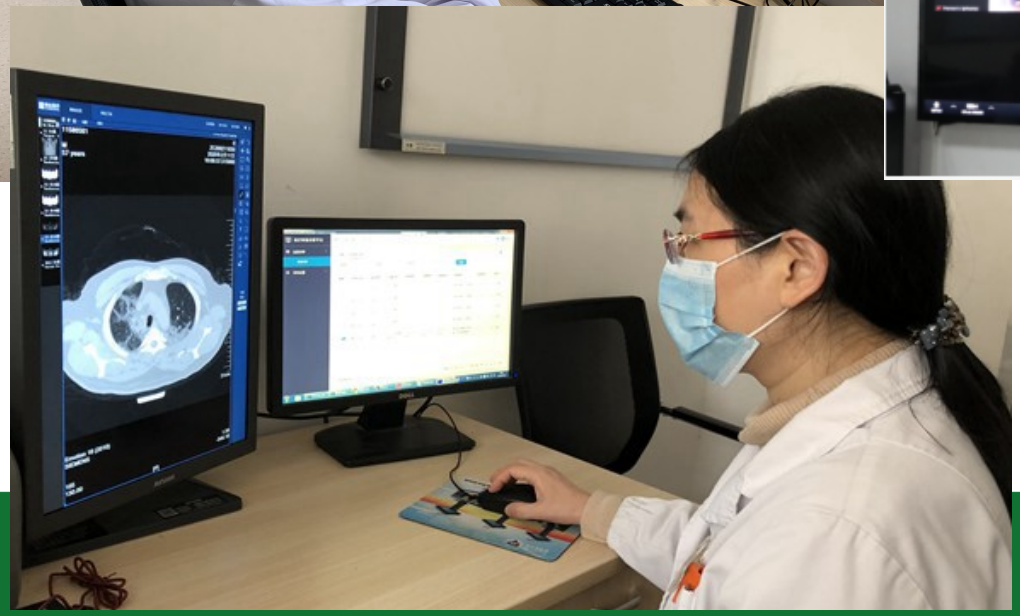


Over 90% volume of IO procedures have come back since late of March 2020

Extended Applications of Hospital Information System

- Online Consultation and Prescription System for Patients
  - real-time and appointed photo/video consultation
  - payment online
- Online Education and Training
  - for staff
  - for students
- Daily Data Report
  - uploaded to the office automation system
  - advice and suggestions were collected through mobile
- Remote Consultation Platform for Union Hospitals





- Network Hospital of Zhongda Hospital
- Online education and training
- Online course
- Online consultation
- International online conference

Annual Meeting of 2020 Chinese College of Interventionalists (CCI 2020, Aug. 27-30, Nanjing-Beijing-Shanghai-Guangzhou, etc.)

- Combination of virtual and physical meetings over 3 days
- 7 venues: Nanjing, Beijing, Shanghai, Wuhan, Guangzhou, Shenyang, Guiyang
- 153 scientific and workshop sessions, 796 lectures presented physically in the 7 venues by over 1,000 faculties
- 76 live IR procedures demonstrations
- 67 international lectures from SIR, CIRSE, GEST, SGI, APSCVIR, SIO, etc.
- 16,000 registered participants
- Over 3,000,000 non-physician audience attendees in public sessions

Impact of COVID-19 on Intervals and Outcomes of TACE Interval in Patients with Unresectable HCC

A retrospective cohort study

Study population: TACE in Jan to Mar 2020 vs. Jan to Mar 2019 in a single center

Inclusion Criteria

- **Unresectable HCC**
- **ECOG scores ≤ 1**
- **Child-Pugh A or B**

cTACE
Repeat TACE on demand
Group A (Jan to Mar 2020), n = 71

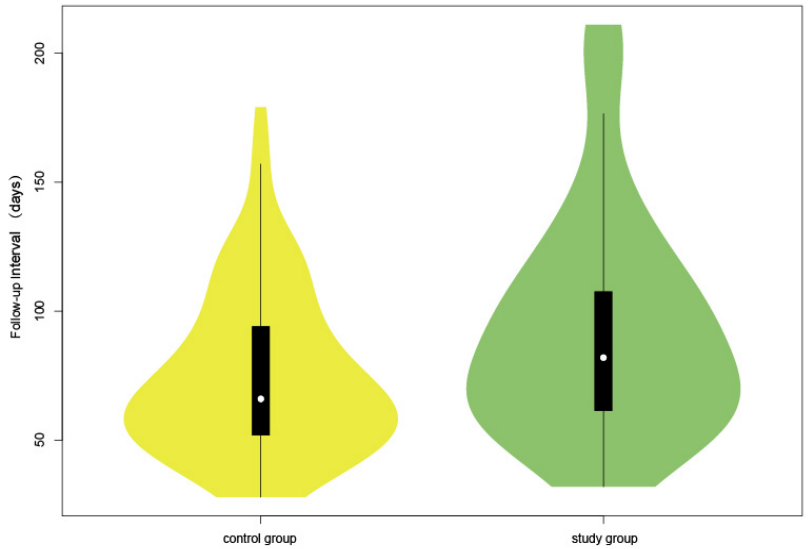
cTACE
Repeat TACE on demand
Group B (Jan to Mar 2019), n = 83

Assessments :

- Interval for repeat TACE
- ORR (CR + PR)
- Independent risk factors for ORR

Impact of COVID-19 on Intervals and Outcomes of TACE Interval in Patients with Unresectable HCC

The follow-up interval



93.0 ± 42.5 vs. 75.0 ± 31.3 days (p = 0.004)

- ORR in 2020: 23.9% (17/71) vs. 39.8% (33/83) in 2019 (p = 0.037)
- longer intervals were significantly associated with a poor ORR (p = 0.024)
- longer intervals and BCLC stage were independent predictors for TACE efficacy

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SCIENTIFIC PAPER (OTHER)

Emergency Responses to Covid-19 Outbreak: Experiences and Lessons from a General Hospital in Nanjing, China

Yang Shen[1] · Ying Cui[2] · Ning Li[3] · Chen Tian[4] · Ming Chen[5] · Ye-Wei Zhang[6] · Ying-Zi Huang[7] · Hui Chen[6] · Qing-Fang Kong[8] · Qun Zhang[4] · Gao-Jun Teng[2]

Received: 20 March 2020 / Accepted: 28 March 20

Abstract

Background The novel coronavirus 2019 (has caused wide dissemination across the health systems are facing the unprecedent Here we shared the experiences and lessons responses and management from our hosp ment-assigned regional anti-Covid-19 gene Nanjing, Jiangsu Province, China.

CVIR

SPECIAL COMMUNICATION

COVID-19: What Should Interventional Radiologists Know and What Can They Do?

Hai-Dong Zhu, MD, Chu-Hui Zeng, BSc, Jian Lu, MD, and Gao-Jun Teng, MD

ABSTRACT

The outbreak of coronavirus disease 2019 (COVID-19) in late December 2019 in Wuhan, China, has been characterized as a "pandemic" by the World Health Organization and has resulted in 81,603 confirmed cases in China, among the 334,981 cases confirmed in 189 countries as of 09:00 am, March 24, 2020 (China central standard time). During the past 3 months, hundreds of thousands of Chinese health care workers, including interventional radiologists (IRs), have been fighting this battle against the horrifying COVID-19 disease. As IRs, what should we know and what can we do when facing this challenge? This paper shares the experience we have gone through.

ABBREVIATIONS

COVID-19 = coronavirus disease 2019, IPC = infection prevention control, IRs = interventional radiologists, PPE = personal protection equipment, RT-PCR = reverse-transcription polymerase chain reaction, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, WHO = World Health Organization

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Morgan *et al. CVIR Endovascular* (2020) 3:45
https://doi.org/10.1186/s42155-020-00136-z

CVIR Endovascular

EDITORIAL Open Access

IR voices about COVID 19

Robert Morgan[1*], Mohammad Arabi[2], Yasuaki Arai[3], Marco Das[4], Jafar Golzarian[5], Andrew Holden[6], Shuvro H. Roy-Choudhury[7], Stavros Spiliopoulos[8], Gao-Jun Teng[9] and Maria Tsitskari[10]

The COVID 19 pandemic has had a major impact on healthcare and healthcare resources. It is well-known that medical personnel working on the treatment front-line, such as pulmonologists, internists, intensive care and emergency care staff have worked extensively to cope with the challenges of COVID while being exposed to great risks of infection themselves. Interventional radiology (IR) is a profession that connects with many other hospital specialties and has a long tradition of adapting well to new situations. Naturally, this is dependent on local circumstances and may vary from country to country. CVIR Endovascular would like to understand how interventional radiology and interventional radiologists have been affected by this pandemic. We invited several IRs from around the world to discuss their personal experiences of the COVID 19 pandemic, and their comments are summarised below.

other, either on the same day or in some cases weeks at a time. All medical leave was cancelled in most hospitals, although as most countries were in Lockdown, there was nowhere to go, even if leave could be taken.

The topic of Personal Protective Equipment (PPE) and the lack of adequate supply affected many hospitals in many countries. Similarly, the relative lack of intensive care (ICU) facilities and ventilators were a worldwide phenomenon.

What was the effect of COVID 19 on interventional radiology departments?

All IR departments wherever they were located have been affected by the COVID pandemic. Most IR departments had to make major changes to their operating procedures in terms of infection control, new IR rotas, and the case mix of IR cases undertaken. Reassuringly

CVIR Endovascular

Experiences & Lessons

- Total of 3 COVID-19 diagnosed in the whole hospital, no new cases since April
- A huge volume of CT scans and PCR tests
- No healthcare-associated infections in any of the 4,000+ employees
- Shortage PPE was a huge challenge in the initial period
- Fever clinic and more negative pressure OR and ward
- Always dynamically and periodically adjust the management of COVID-19