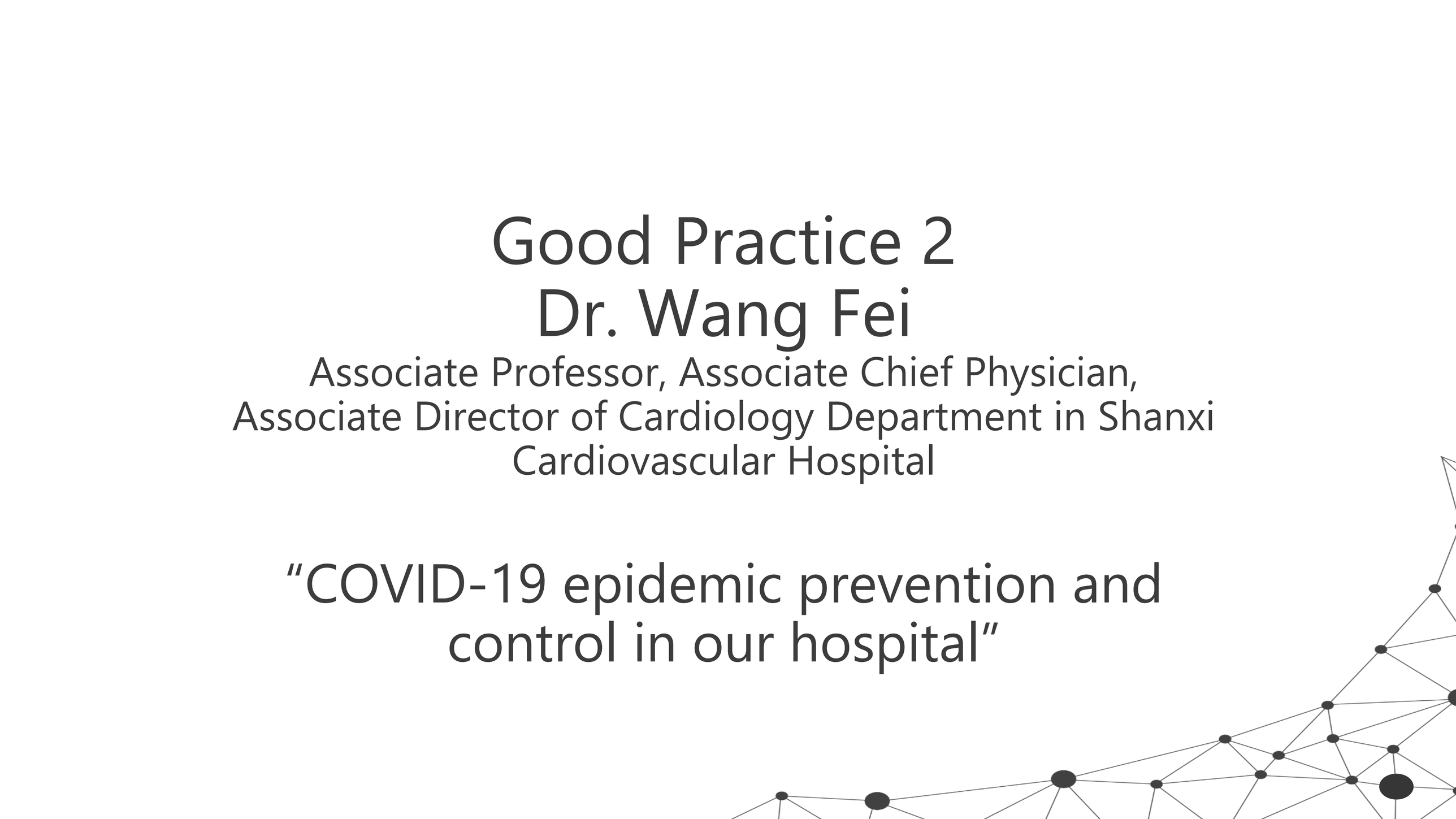
Good Practice 2

Dr. Wang Fei

Associate Professor, Associate Chief Physician,
Associate Director of Cardiology Department in Shanxi
Cardiovascular Hospital

“COVID-19 epidemic prevention and control in our hospital”



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A Brief Report on COVID-19 Epidemic Prevention and Control in Shanxi Cardiovascular Hospital

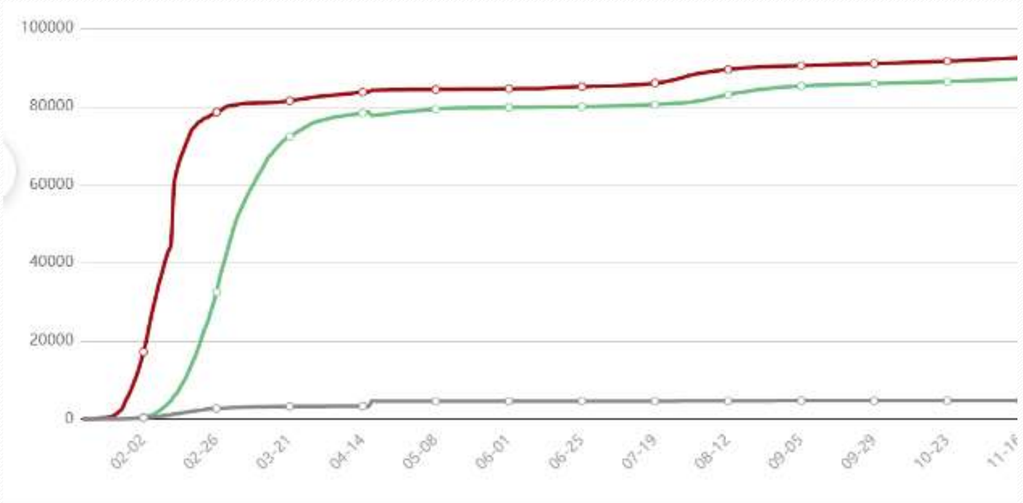
Wang Fei MD, PhD

COVID-19 Global Pandemic Map

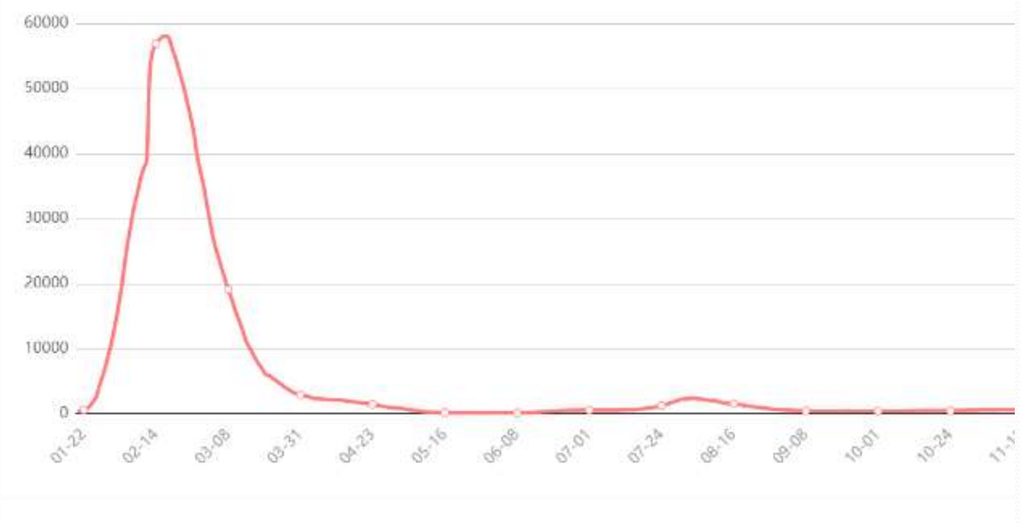
Globally, as of **2:59pm CET, 16 November 2020**, there have been **54,301,156 confirmed cases** of COVID-19, including **1,316,994 deaths**, reported to WHO.

Source: World Health Organization

Trend Map of China's Epidemic



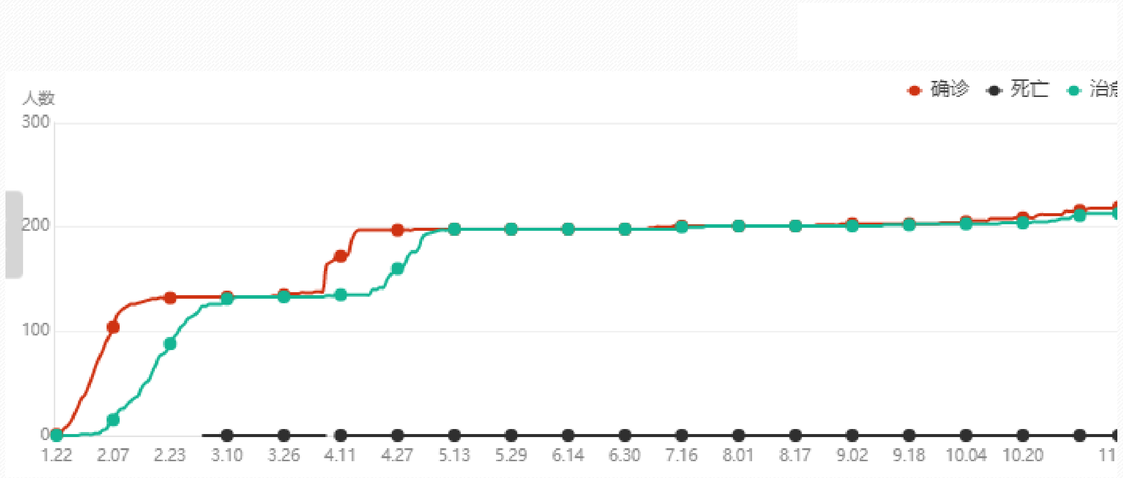
Cumulative confirmed/cured/ death cases in China



Trend map of existing confirmed cases nationwide

Data from Tencent

Epidemic Trend Map in Shanxi Province



Cumulative confirmed/cured/death cases in Shanxi Province

- Currently confirmed cases in the region are all imported cases from abroad
- “Zero infection” of medical staff in Shanxi Province
- “Zero death” for infected patients

Data from Tencent


Taiyuan 太原

Hospital Overview

- Established in 1980
- Shanxi Institute of Cardiovascular Disease
- Affiliated Hospital of Shanxi Medical University
- National Top 100 Demonstration Hospitals
- A tertiary specialty hospital integrating medical treatment, scientific research, teaching, prevention, health care, rehabilitation, and community service

Overall Epidemic Prevention and Control Strategy

Unified deployment

- ✓ High attention must be paid to unified deployment
- ✓ All departments coordinate and perform their duties to do a good job in prevention and control

Scientific prevention and control

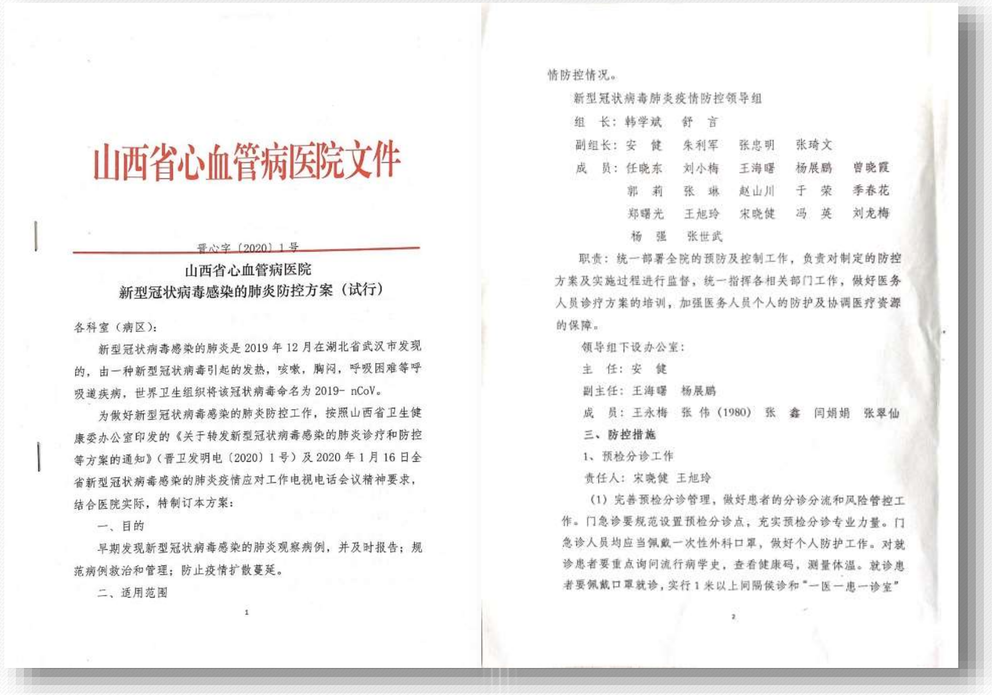
- ✓ Correctly understand the epidemic is preventable, controllable and curable
- ✓ Avoid being insensitive, panic, fear of difficulties

Overall Epidemic Prevention and Control Strategy

Establishment a leading group for COVID-19 epidemic prevention and control

Director： President Han Xuebin

Deputy director: Vice-president An Jian



山西省心血管病医院文件

晋心字〔2020〕1号

山西省心血管病医院
新型冠状病毒感染的肺炎防控方案（试行）

各科室（病区）：

新型冠状病毒感染的肺炎是2019年12月在湖北省武汉市发现的，由一种新型冠状病毒引起的发热，咳嗽，胸闷，呼吸困难等呼吸道疾病，世界卫生组织将该冠状病毒命名为2019- nCoV。

为做好新型冠状病毒感染的肺炎防控工作，按照山西省卫生健康委办公室印发的《关于转发新型冠状病毒感染的肺炎诊疗和防控等方案的通知》（晋卫发明电〔2020〕1号）及2020年1月16日全省新型冠状病毒感染的肺炎疫情应对工作电视电话会议精神要求，结合医院实际，特制订本方案：

一、目的

早期发现新型冠状病毒感染的肺炎观察病例，并及时报告；规范病例救治和管理；防止疫情扩散蔓延。

二、适用范围

1

情防控情况。

新型冠状病毒肺炎疫情防控领导组

组 长：韩学斌 舒 言

副组长：安 健 朱利军 张忠明 张琦文

成 员：任晓东 刘小梅 王海曙 杨展鹏 曾晓霞
郭 莉 张 琳 赵山川 于 荣 季春花
郑曙光 王旭玲 宋晓健 冯 英 刘龙梅
杨 强 张世武

职责：统一部署全院的预防及控制工作，负责对制定的防控方案及实施过程进行监督，统一指挥各相关部门工作，做好医务人员诊疗方案的培训，加强医务人员个人的防护及协调医疗资源的保障。

领导组下设办公室：

主 任：安 健

副主任：王海曙 杨展鹏

成 员：王永梅 张 伟（1980） 张 鑫 闫娟娟 张翠仙

三、防控措施

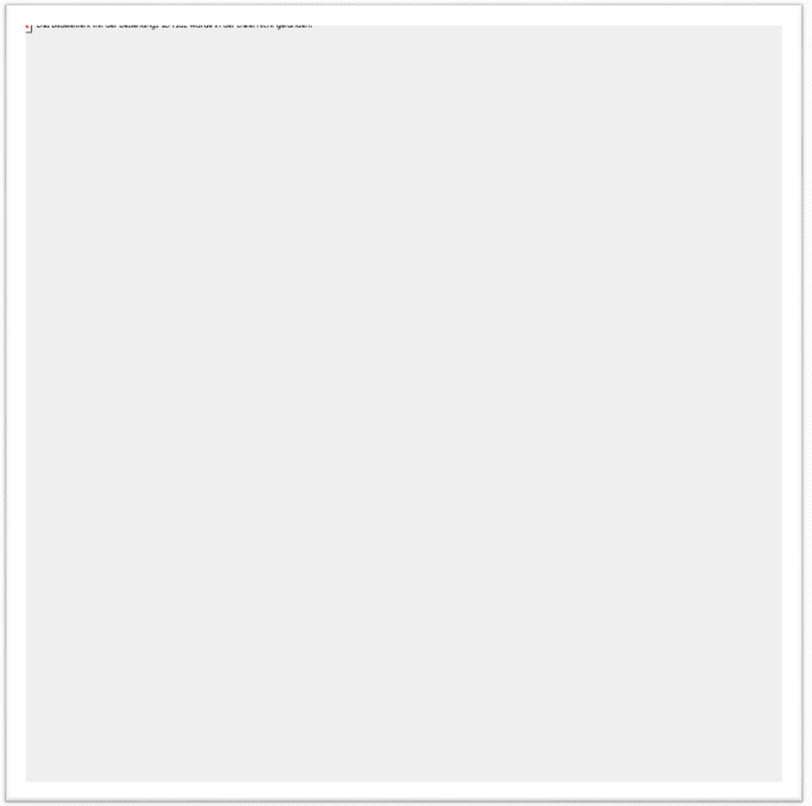
1、预检分诊工作

责任人：宋晓健 王旭玲

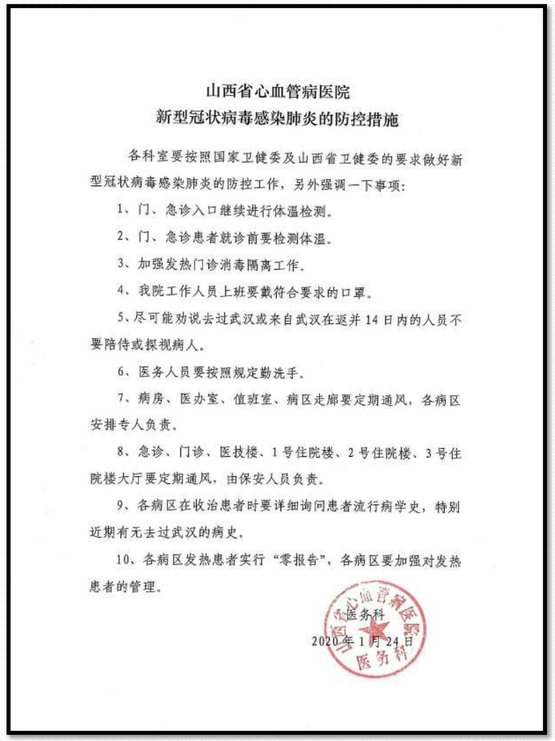
（1）完善预检分诊管理，做好患者的分诊分流和风险管控工作。门急诊要规范设置预检分诊点，充实预检分诊专业力量。门急诊人员均应当佩戴一次性外科口罩，做好个人防护工作。对就诊患者要重点询问流行病学史，查看健康码，测量体温。就诊患者要佩戴口罩就诊，实行1米以上间隔候诊和"一医一患一诊室"

2

- Routine meeting on analysis of fever patients in hospital
- Various forms of COVID-19 prevention and control training in the hospital
- Standardized reporting of fever/suspected patients in the whole hospital
- Strengthen surveillance and inspection of prevention and control work
- Strengthen hospital-acquired infection control



Continuous improvement of the epidemic prevention and control plan



山西省心血管病医院
新型冠状病毒感染肺炎的防控措施

各科室要按照国家卫健委及山西省卫健委的要求做好新型冠状病毒感染肺炎的防控工作，另外强调一下事项：

1、门、急诊入口继续进行体温检测。

2、门、急诊患者就诊前要检测体温。

3、加强发热门诊消毒隔离工作。

4、我院工作人员上班要戴符合要求的口罩。

5、尽可能劝说去过武汉或来自武汉在返并14日内的人员不要陪侍或探视病人。

6、医务人员要按照规定勤洗手。

7、病房、医办室、值班室、病区走廊要定期通风，各病区安排专人负责。

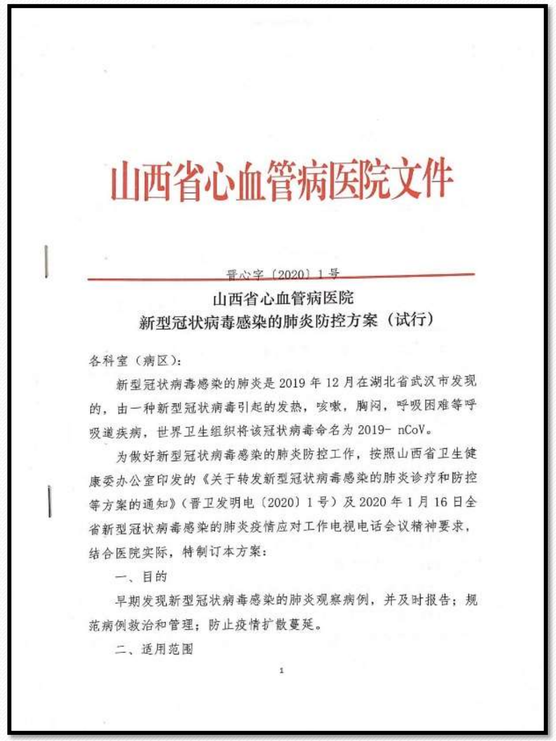
8、急诊、门诊、医技楼、1号住院楼、2号住院楼、3号住院楼大厅要定期通风，由保安人员负责。

9、各病区在收治患者时要详细询问患者流行病学史，特别近期有无去过武汉的病史。

10、各病区发热患者实行“零报告”，各病区要加强对发热患者的管理。

医务科
2020年1月24日

1st edition



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新型冠状病毒感染的肺炎防控方案（试行）

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二、适用范围

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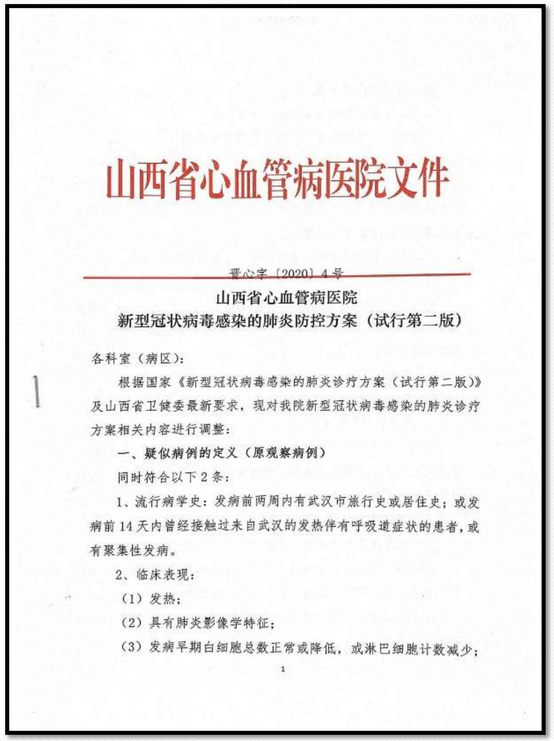
2nd edition



山西省心血管病医院文件

晋心字〔2020〕4号

山西省心血管病医院
新型冠状病毒感染的肺炎防控方案（试行第二版）

各科室（病区）：

根据国家《新型冠状病毒感染的肺炎诊疗方案（试行第二版）》及山西省卫健委最新要求，现对我院新型冠状病毒感染的肺炎诊疗方案相关内容进行调整：

一、疑似病例的定义（原观察病例）

同时符合以下2条：

1、流行病学史：发病前两周内有武汉市旅行史或居住史；或发病前14天内曾经接触过来自武汉的发热伴有呼吸道症状的患者，或有聚集性发病。

2、临床表现：

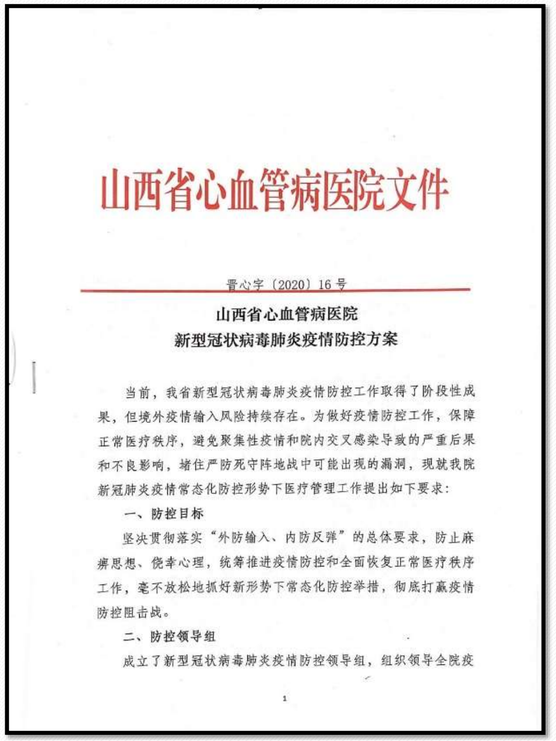
（1）发热；

（2）具有肺炎影像学特征；

（3）发病早期白细胞总数正常或降低，或淋巴细胞计数减少；

1

3rd edition



山西省心血管病医院文件

晋心字〔2020〕16号

山西省心血管病医院
新型冠状病毒肺炎疫情防控方案

当前，我省新型冠状病毒肺炎疫情防控工作取得了阶段性成果，但境外疫情输入风险持续存在。为做好疫情防控工作，保障正常医疗秩序，避免聚集性疫情和院内交叉感染导致的严重后果和不良影响，堵住严防死守阵地战中可能出现的漏洞，现就我院新冠肺炎疫情常态化防控形势下医疗管理工作提出如下要求：

一、防控目标

坚决贯彻落实“外防输入、内防反弹”的总体要求，防止麻痹思想、侥幸心理，统筹推进疫情防控和全面恢复正常医疗秩序工作，毫不放松地抓好新形势下常态化防控举措，彻底打赢疫情防控阻击战。

二、防控领导组

成立了新型冠状病毒肺炎疫情防控领导组，组织领导全院疫

1

4th edition

Full-staff Training

Three-level Protection

（1）个人防护标准

Protection Level	Protective Equipment	Scope of Application	示例
Level I protection	• Disposable surgical cap • Disposable surgical mask • Work uniform • Disposable latex gloves or/and disposable isolation clothing if necessary	• Pre-examination triage, general outpatient department	
Level II protection	• Disposable surgical cap • Medical protective mask (N95) • Work uniform • Disposable medical protective uniform • Disposable latex gloves • Goggles	• Fever outpatient department • Isolation ward area (including isolated intensive ICU) • Non-respiratory specimen examination of suspected/confirmed patients • Imaging examination of suspected/ confirmed patients • Cleaning of surgical instruments used with suspected/confirmed patients	
Level III protection	• Disposable surgical cap • Medical protective mask (N95) • Work uniform • Disposable medical protective uniform • Disposable latex gloves • Full-face respiratory protective devices or powered air-purify ing respirator	• When the staff performs operations such as tracheal intubation, tracheotomy, bronchofibroscope, gastroenterological endoscope, etc., during which, the suspected/confirmed patients may spray or splash respiratory secretions or body fluids/blood • When the staff performs surgery and autopsy for confirmed/suspected patients • When the staff carries out NAT for COVID-19	

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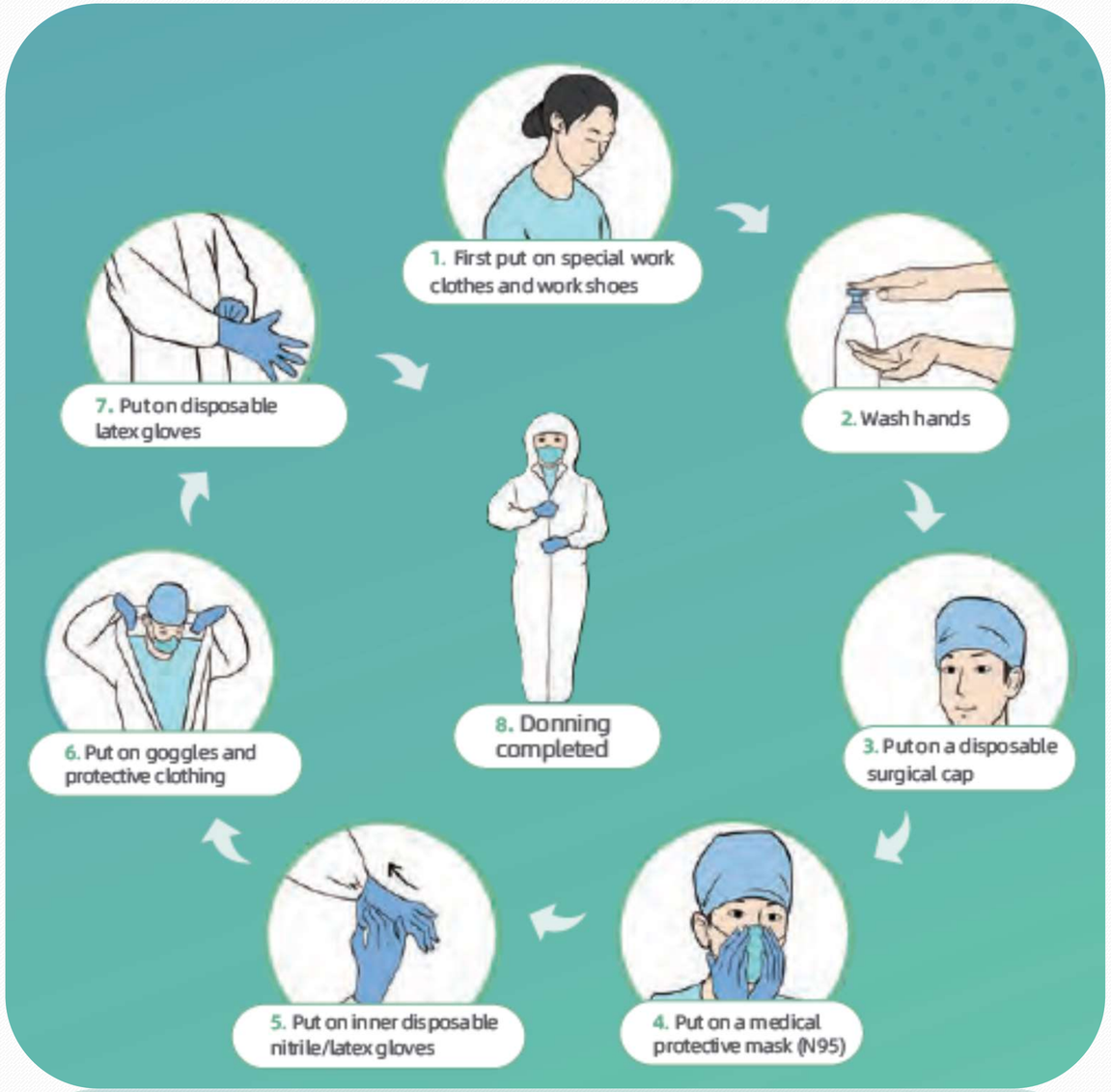
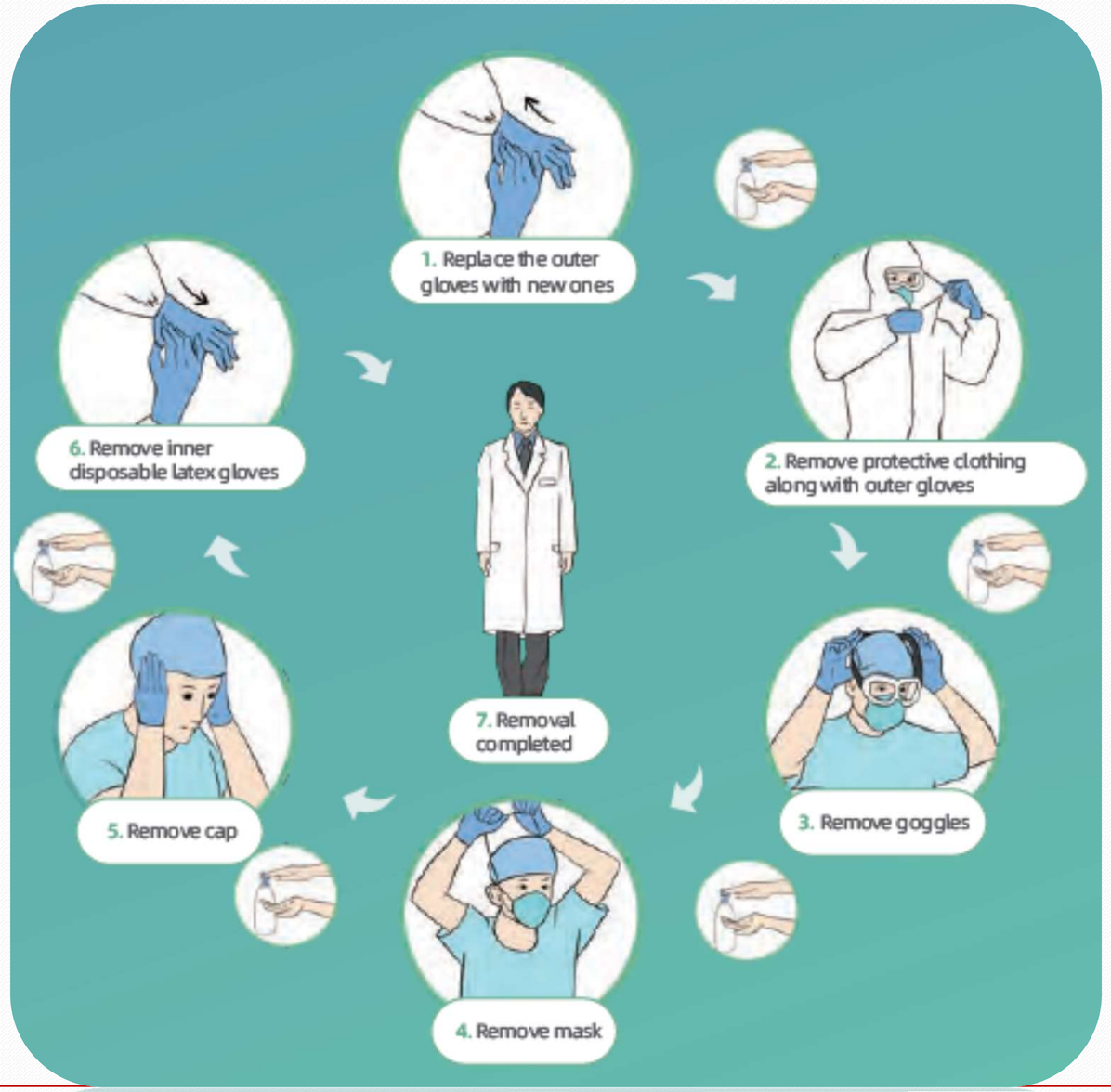
Guidance on Donning PPE



Guidance on Removing PPE



Measures— hospital-acquired infection (HAI) management

- Training
- Standardized protection for medical staff
- Hand hygiene management
- Ward ventilation management
- Standardize district disinfection in hospital
- Strengthen supervision and guidance of HAI management
- Formulate the system and workflow

COVID-19 Emergency Drill

Measures---Improvement of triage work in outpatient and emergency department

- Temperature measurement at the gate
- Triage
- Temperature management in consultation area
- Epidemiological history survey
- Implement "One Doctor, One Patient, One Clinic“
- Formulate emergency plans for outpatients with fever

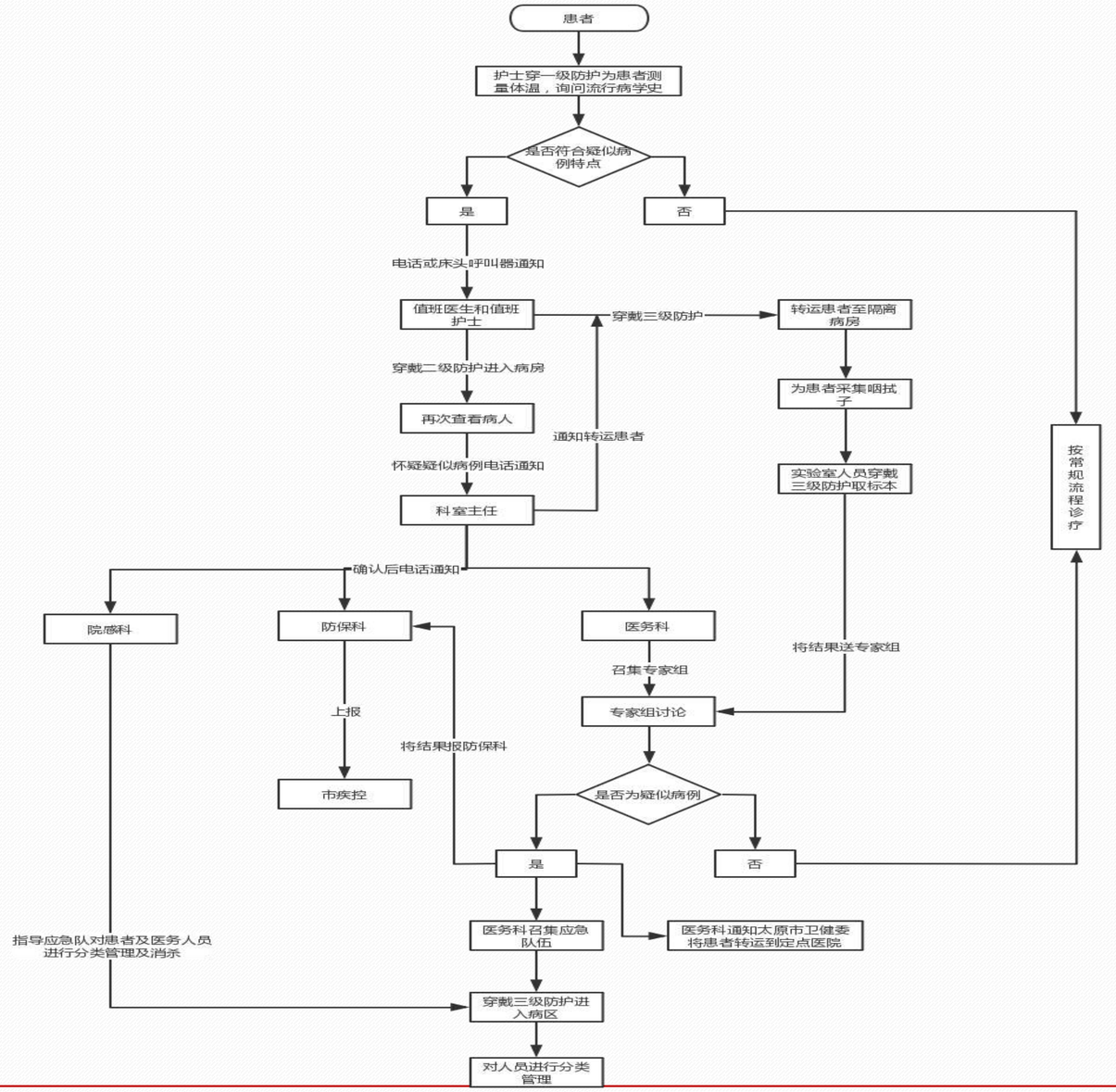
Outpatient department

- Temperature measurement at the gate
- Revised the prevention and control workflow of the chest pain center
- Revised the prevention and control workflow of the stroke center
- Epidemiological history survey
- Set up emergency isolation and rescue room
- Formulate emergency plans for patients with fever in ED

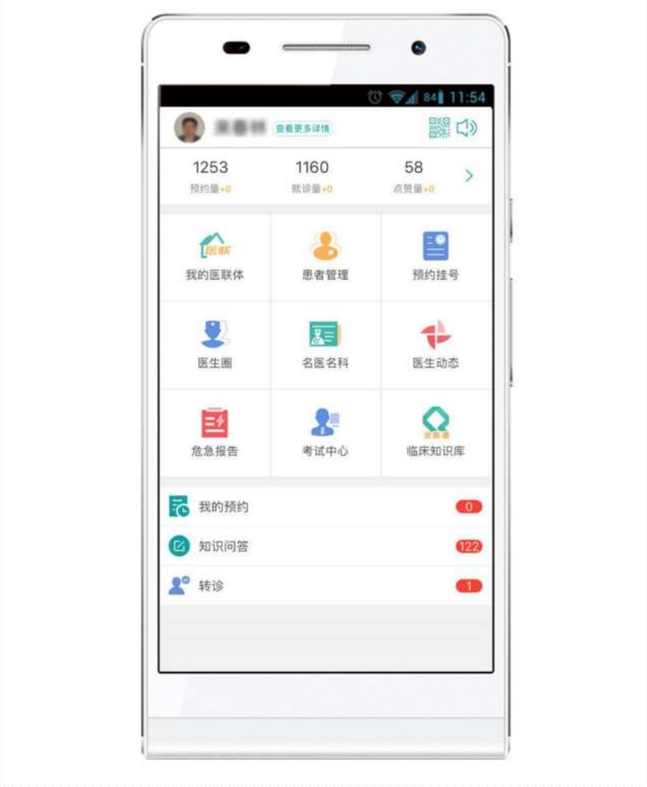
Emergency department

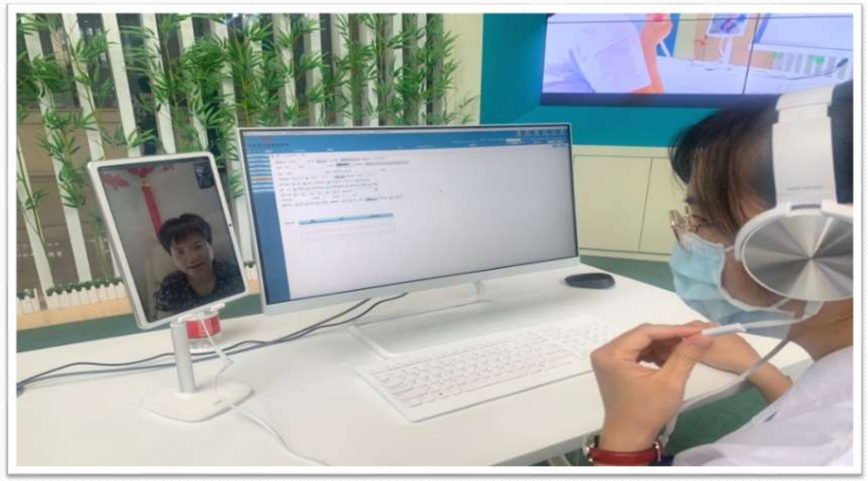
Triage flow chart

Health QR Code

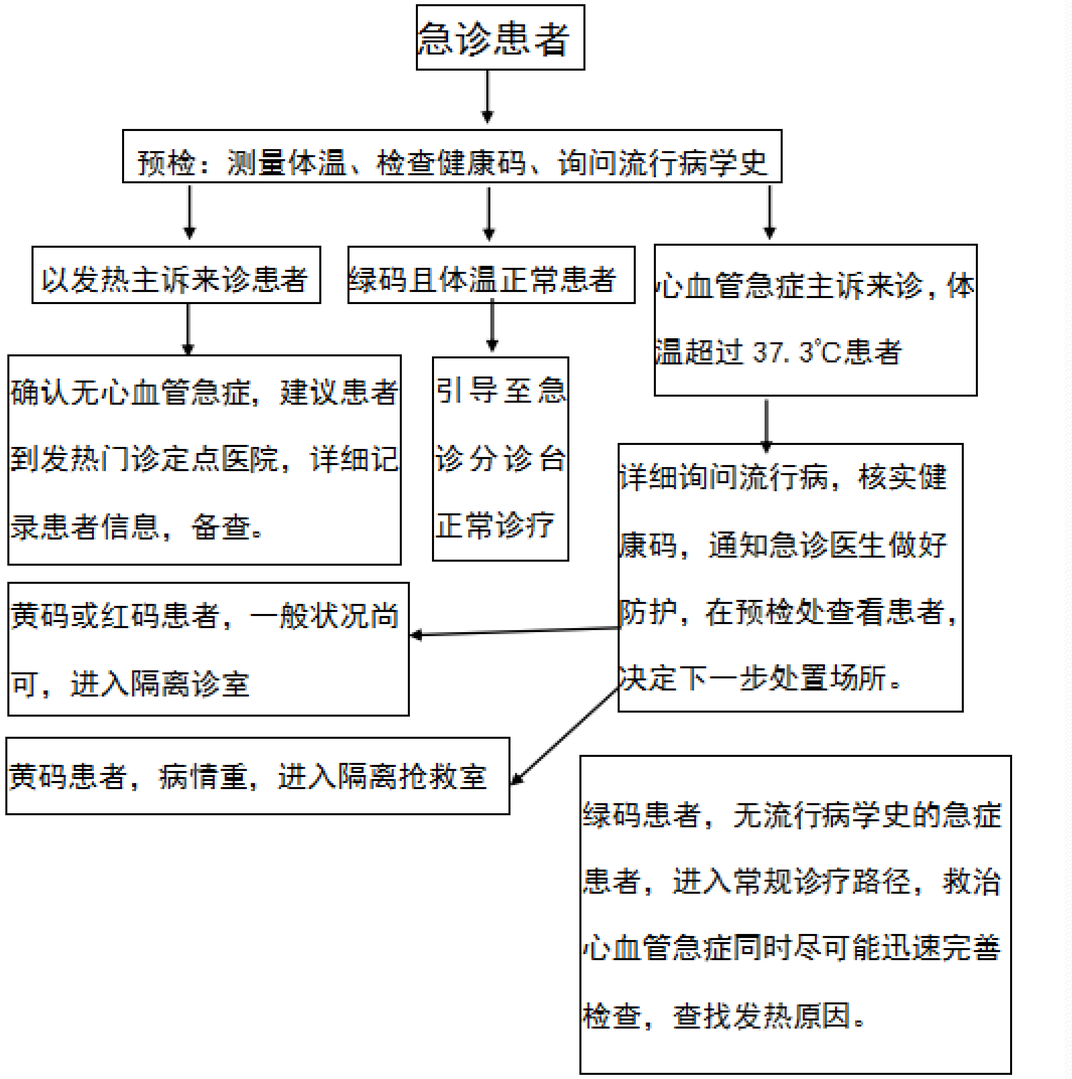


Smart Hospital Helps Epidemic Prevention and Control

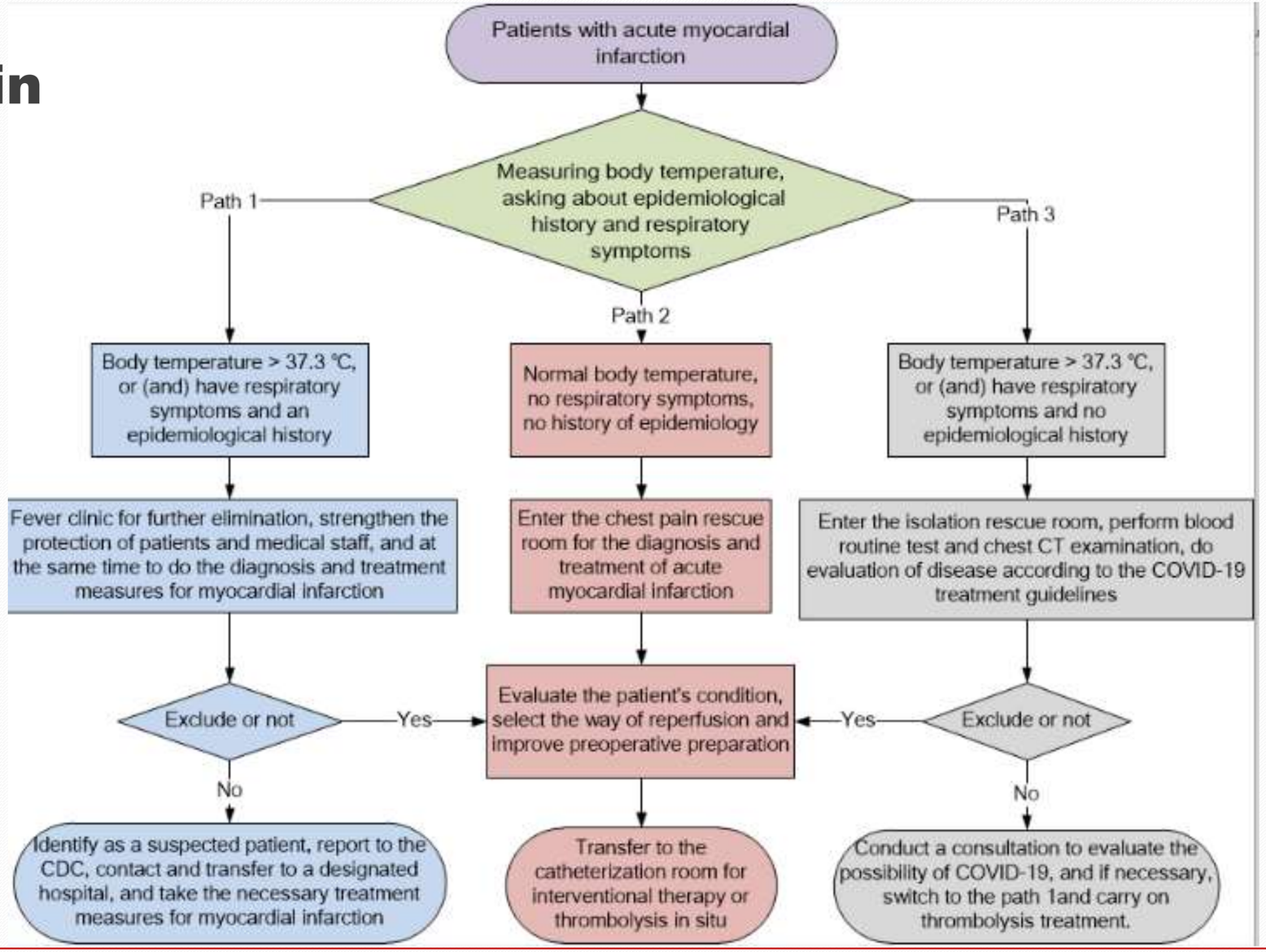




Workflow in ED

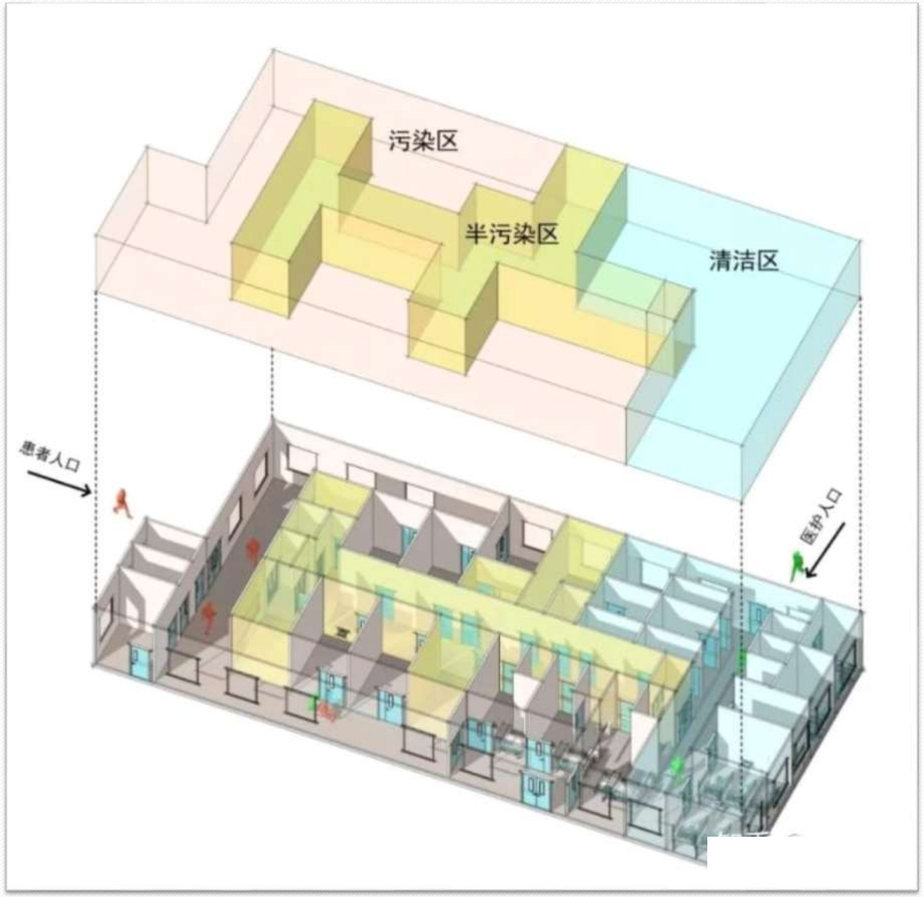


Revised Flow Chart in Chest Pain Center



Measures---Fever Clinic

Three Zones and Two Passages



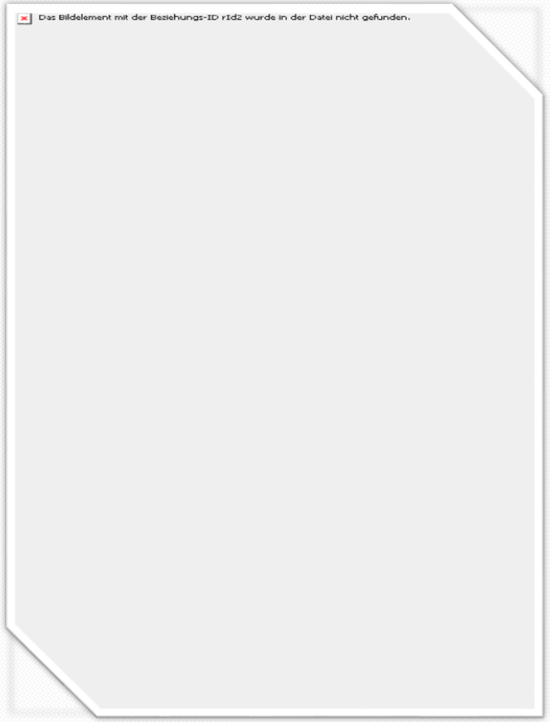
Systematic Evaluation in Fever Clinic

- ✓ Epidemic history survey
- ✓ Clinical symptoms and signs
- ✓ Nucleic acid, antibody test
- ✓ CBC, CRP, *etc*
- ✓ Chest CT

Patient Transfer

Measures— Inpatient Department Management

- Temperature（＜37.3℃）, Health QR code(green code), NAT(-)
- Accompanying nursing staff management
- Ventilation and disinfection of inpatient hall
- Access registration management



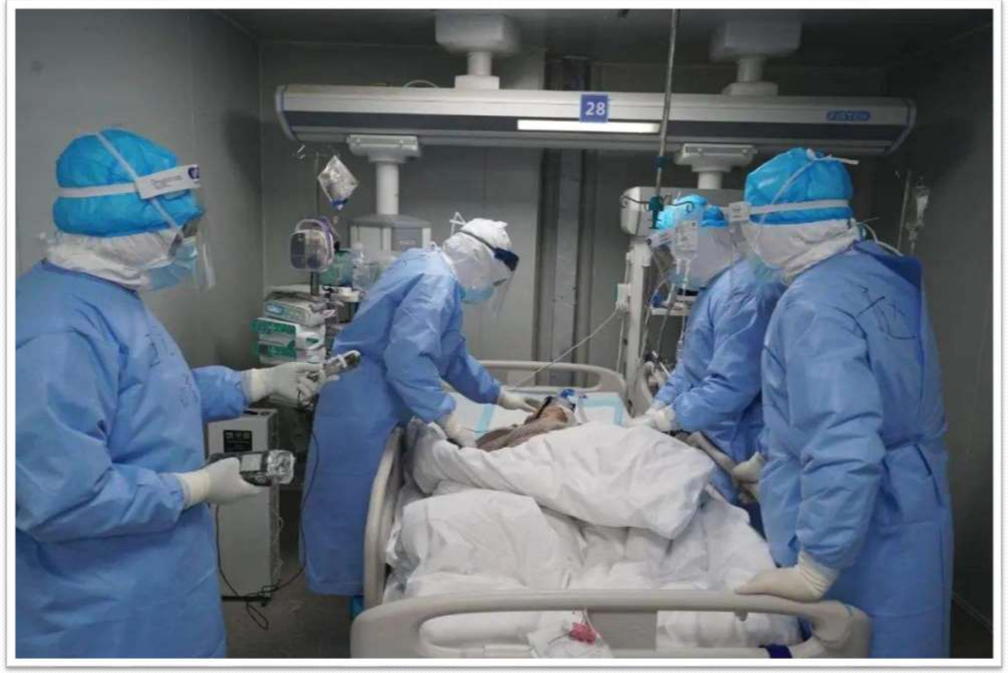
Measures— Ward Management

- ✓ Designated gate-keeper
- ✓ Chest CT, NAT results before admission
- ✓ Implement “one person, one company, one certificate”
- ✓ Epidemic history survey
- ✓ management of fever patients
- ✓ Set up isolation room

Rules for graded protection of operating rooms during the epidemic

	手术室外				外出抢救气管插管	手术室内			
	公共区域	门诊、病房急诊留观	急诊抢救室	发热门诊	除发热门诊外其他区域	办公区生活区	无发热患者	发热患者	COVID-19 疑似或确诊患者
帽子	一次性手术帽								
口罩	外科口罩	外科口罩	外科口罩	N95 口罩	N95 口罩	外科口罩	外科口罩	N95 口罩	N95 口罩
手套	-	必要时检查手套	必要时检查手套	乳胶手套	乳胶手套	-	检查手套	乳胶手套	乳胶手套
鞋套	外出鞋	外出鞋	+	+	+	-	-	+	+
白大衣或外出服	+	+	+	+	+	-	-	-	+
防护服	-	-	-	+	-	-	-	-	+
隔离衣	-	-	+	+	+	-	-	+	+
护目镜或防护屏	-	-	±	+	+	-	+	+	+

ICU epidemic prevention and control regulations



Waste sorting management

Final Disinfection

Strengthen Medical Quality Control during the Epidemic

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- **COVID-19 epidemic prevention and control in our hospital**
- **Restoration of normal medical order**

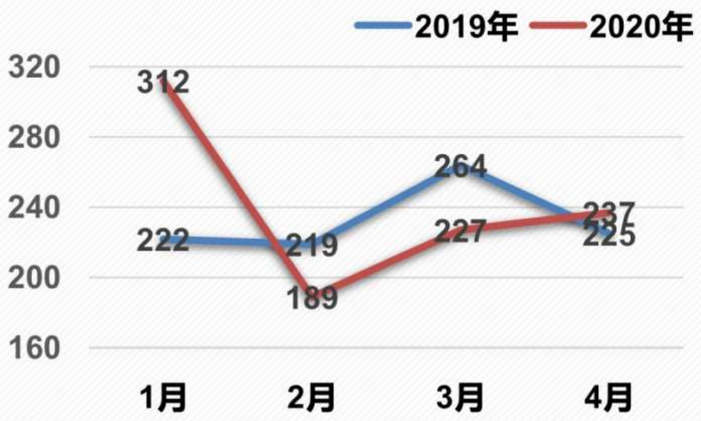
Restoration of normal medical order

- ✓ Fully resume outpatient work on March 1
- ✓ Fully resume ward work on March 1

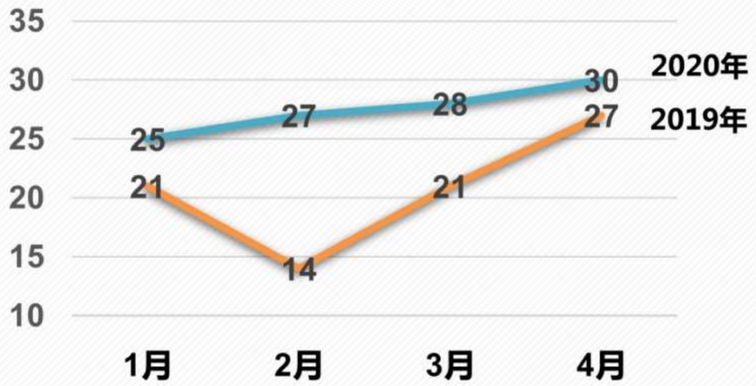
- 3月1日病区全面开诊。

Data from Chest Pain Center

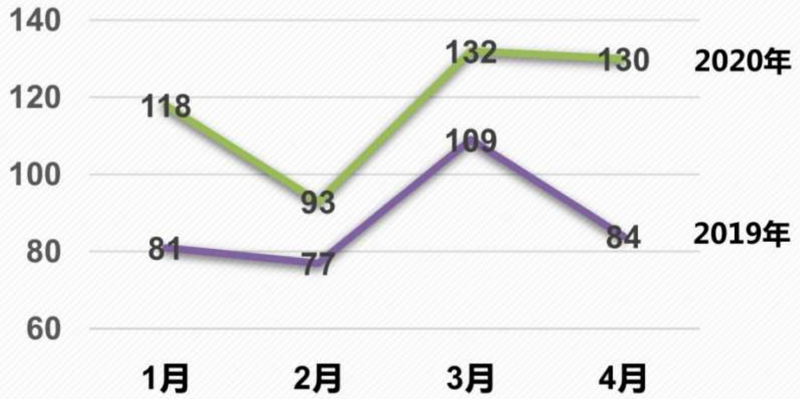
CPC Visits



CPC Emergent Angiography



CPC Primary PCI



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新型冠状病毒肺炎防控形势下急性心肌梗死诊治流程和路径的中国专家共识(第1版)

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摘要:自2019年12月以来,新型冠状病毒肺炎在武汉感染流行并迅速蔓延全国各地,根据国家整体防控方案,绝大部分地区启动限制出入、限制交通等管理。此特殊形势对于急性心肌梗死患者的特运救治流程提出了新的要求。急性心肌梗死发病急、致死性高、最佳救治窗口期短、且容易合并呼吸系统感染及呼吸、循环衰竭,更加需要就地积极治疗。为规范管理、易化流程,规制定急性心肌梗死诊治流程和路径策略,其核心是救治原则、安全防护原则、药物优先原则、定点转运原则、远程会诊原则。对于急性心梗患者,应降查新型冠状病毒肺炎,针对发病时间段,选择不同的治疗策略。在这一特殊时期,包括介入医师在内的心血管医生都应掌握防控的基础知识和适应证。在急性心肌梗死患者的特运和治疗中,应严格掌握特运及手术指征,严格按照要求对感染者及医务工作者进行防护。
关键词:新冠肺炎;心肌梗死;防护;特运;指南

Consensus of Chinese experts on diagnosis and treatment processes of acute myocardial infarction in the context of prevention and control of COVID-19 (first edition)

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Abstract: The SARS-CoV-2 epidemic starting in Wuhan in December, 2019 has spread rapidly throughout the nation. The control measures to contain the epidemic also produced influences on the transport and treatment process of patients with acute myocardial infarction (AMI), and adjustments in the management of the patients need to be made at this particular time. AMI is characterized by an acute onset with potentially fatal consequence, a short optimal treatment window, and frequent complications including respiratory infections and respiratory and circulatory failure, for which active on-site treatment is essential. To standardize the management and facilitate the diagnosis and treatment, we formulated the guidelines for the procedures and strategies for the diagnosis and treatment of AMI, which highlight 5 Key Principles, namely Nearby treatment, Safety protection, Priority of thrombolysis, Transport to designated hospitals, and Remote consultation. For AMI patients, different treatment strategies are selected based on the screening results of SARS-CoV-2, the time window of STEMI onset, and the vital signs of the patients. During this special period, the cardiologists, including the interventional physicians, should be fully aware of the indications and contraindications of thrombolysis. In the transport and treatment of AMI patients, the physicians should strictly observe the indications for patient transport with appropriate protective measurements of the medical staff.
Keywords: novel coronavirus pneumonia; myocardial infarction; protection; transshipment; thrombolysis

自2019年12月以来,新型冠状病毒肺炎(简称"新冠肺炎",COVID-19)在武汉感染流行并迅速蔓延全国各地,根据国家整体防控方案,绝大部分地区启动采制出入、采制交通等管理。此特殊形势对于急性心肌梗死患者的特运救治流程提出了新的要求。急性心肌梗死发病急、致死性高、最佳救治窗口期短、且容易合并呼吸系统感染及呼吸、循环衰竭,更加需要就地积极治疗。为规范管理、易化流程,现制定急性心肌梗死诊治流程和路径策略,供广大同道参考。

1 总体原则

1.1 就近原则

救治急性心肌梗死患者就近就诊、原地治疗,尽量减少患者特运和人员流动。

1.2 安全防护原则

原则上伴有发热等其他呼吸道症状的急性心肌梗

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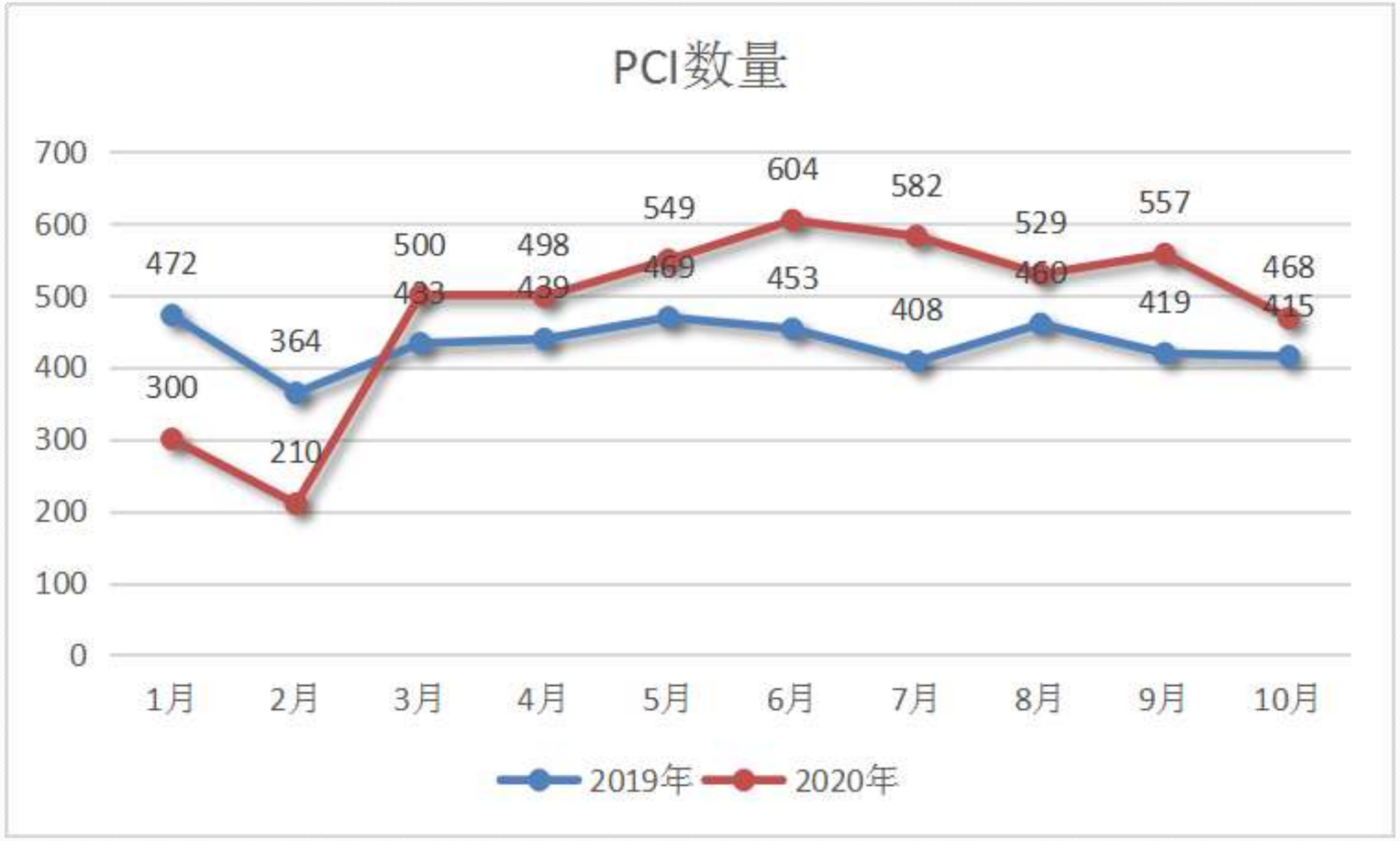
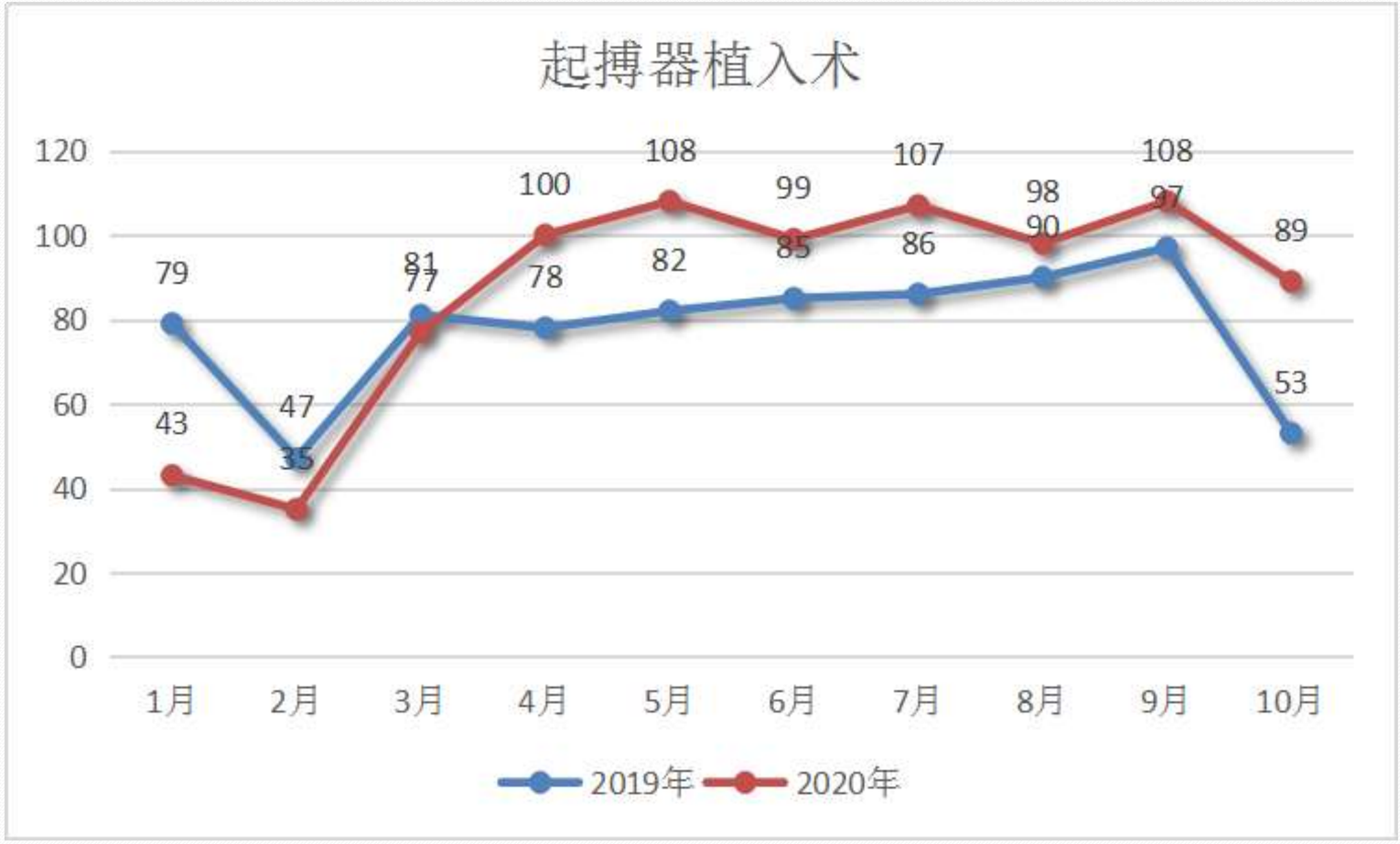
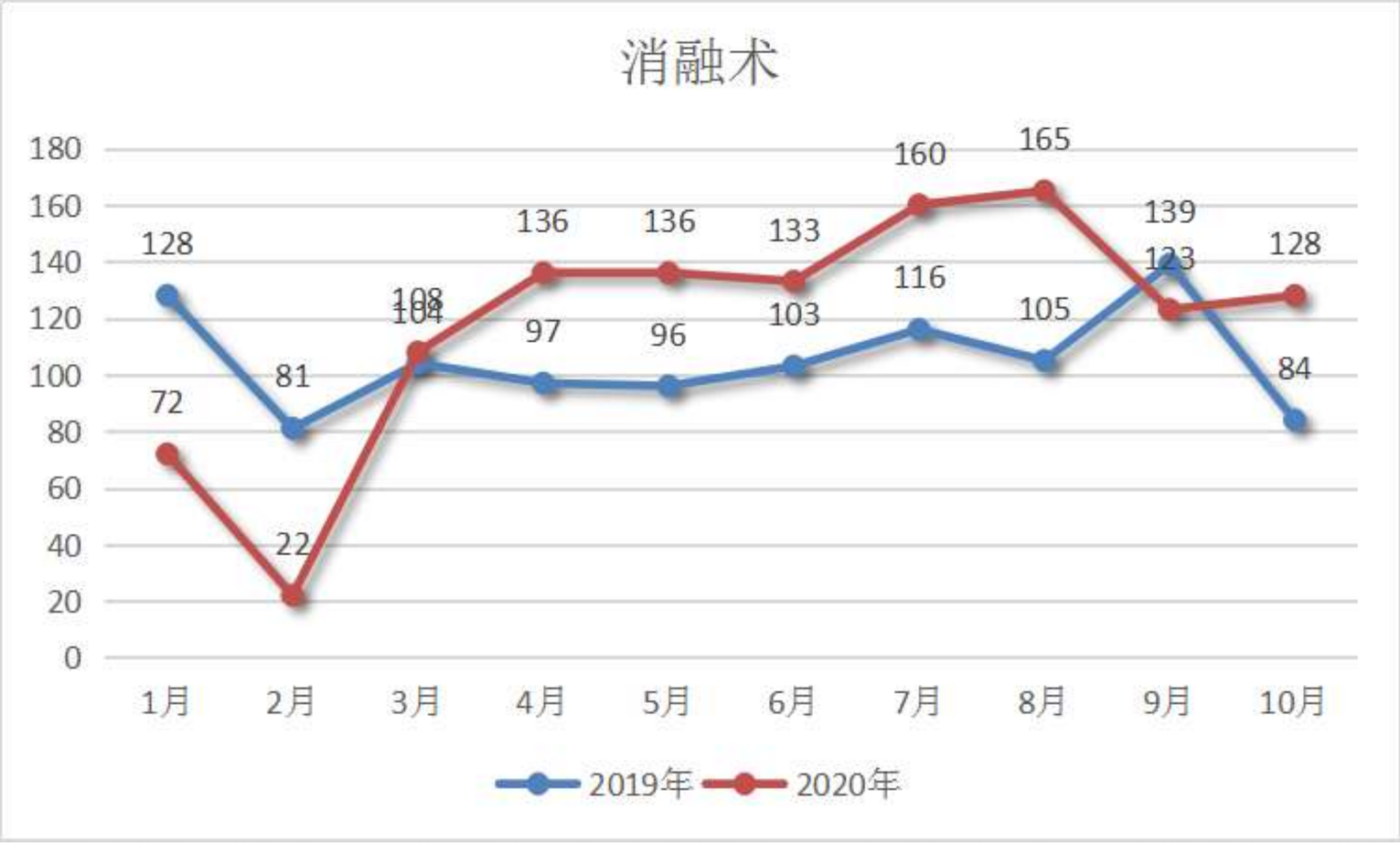
Elective PCI
(blue:2019 red:2020)



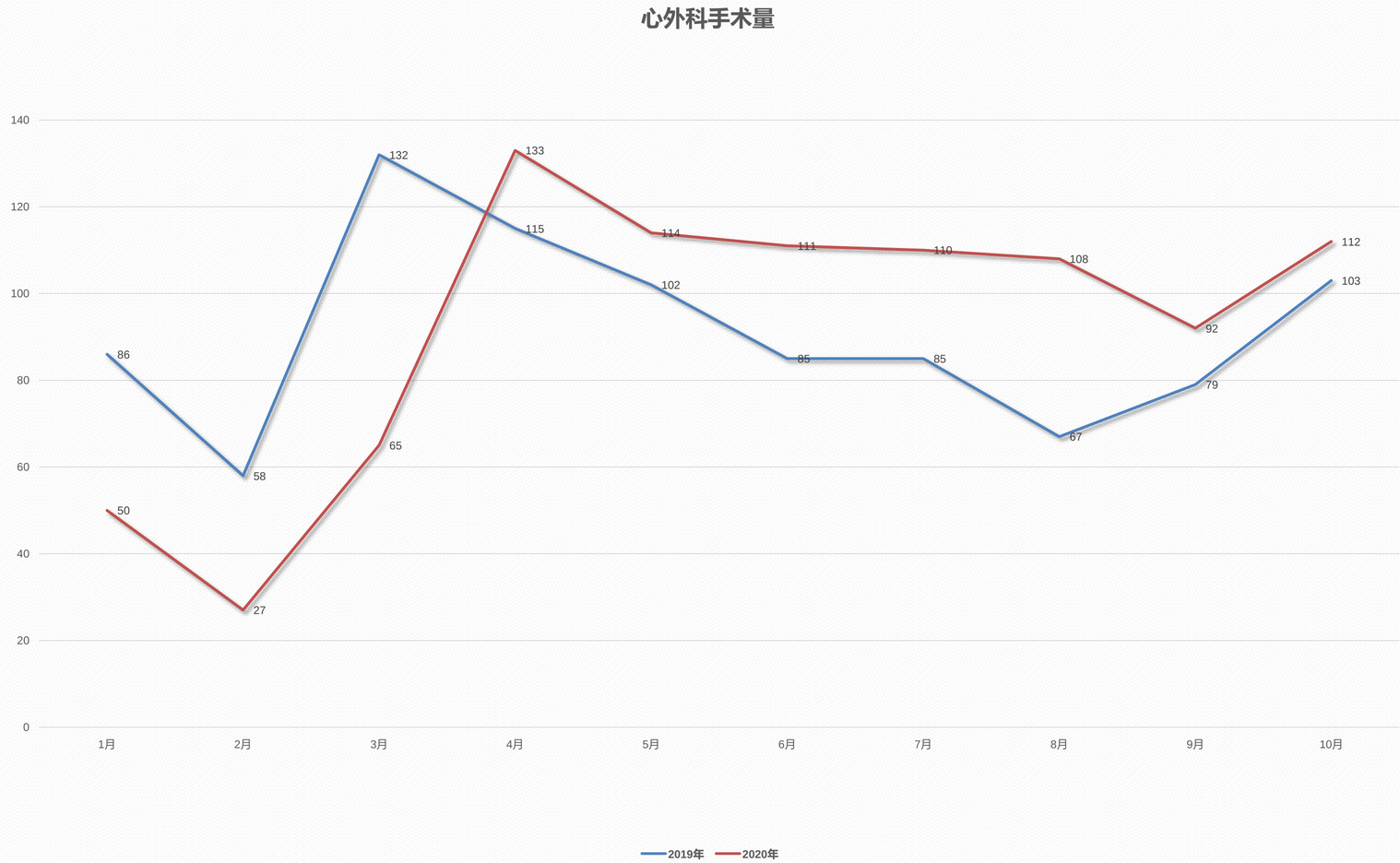
Pacemaker Implantation
(blue:2019 red:2020)



Radiofrequency Ablation
(blue:2019 red:2020)



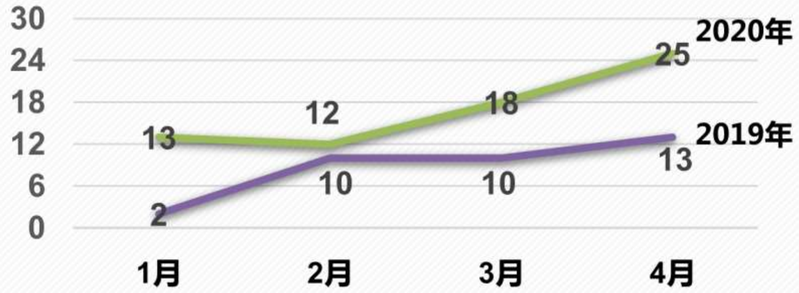
Cardiac Surgery
(blue:2019 red:2020)



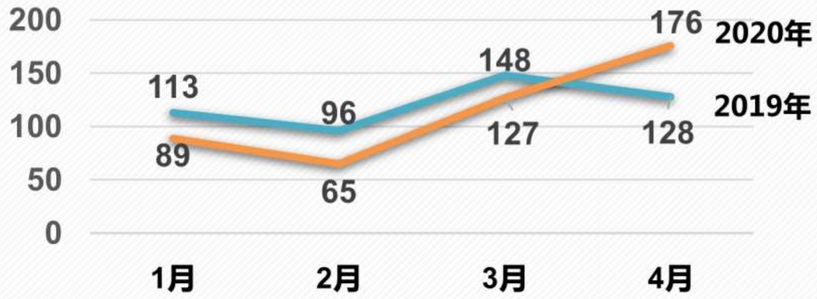
Data from Stroke Center

SC Visits

SC Thrombolysis



SC Angiography



SC Thrombectomy

Summary

- The COVID-19 epidemic spreads around the world and brings us many challenges;
- Our experience suggests that overall planning, reasonable layout, scientific prevention and control, and adherence to the "four early" principles (early detection, early diagnosis, early isolation and early treatment) are effective methods to curb the spread of the virus;
- Looking forward to multi-party cooperation, sharing valuable experience and lessons, and achieving the final victory in the global fight against COVID-19 as soon as possible.

Thanks for your attention