



**HEALTHY
UPDATE**

**C. U. SHAH MEDICAL
COLLEGE,
SURENDRANAGAR
GUJARAT**

**INFORMATION
ON ADVANCES
IN HEALTHCARE**

**NEWS AND
VIEWS**

HEALTHY UPDATE
With frequent updates

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and collecting them”**

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related to the field of medicine and health-care.**

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with like minded.**

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HEALTHY UPDATE

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LATEST

05-04-2020

**Dr Harsh Vardhan Reviews Novel Coronavirus Preparations With
IMA**



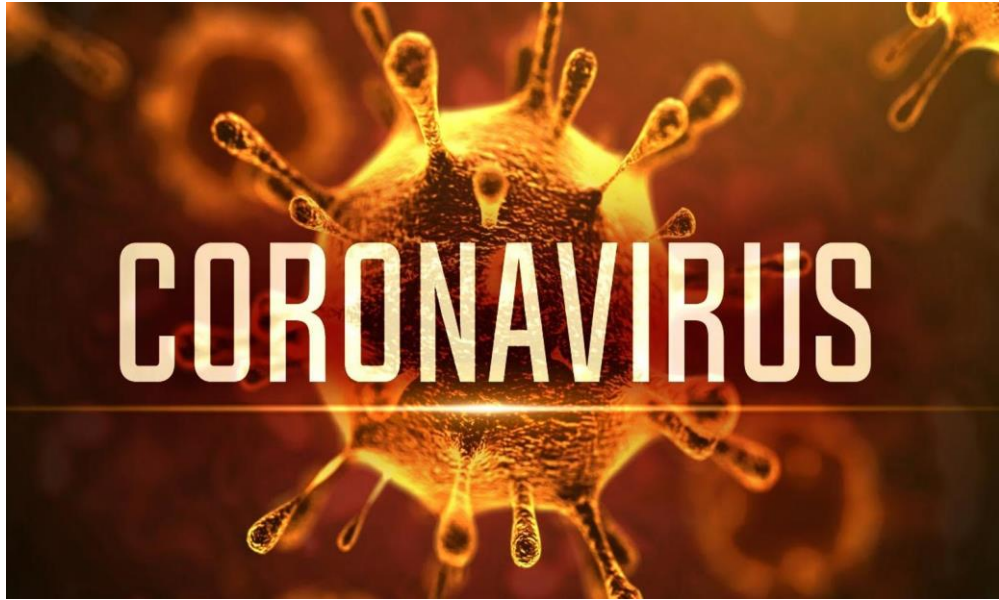
New Delhi: Dr. Harsh Vardhan, Union Minister of Health & Family Welfare chaired a high-level review meeting, here today, through Video Conferencing (VC) with senior members of Indian Medical Association (IMA) & State branches of Indian Medical Associations to review the preparedness and concerns of medical staff across the country related to COVID-19.

They were informed about the current scenario in the country, various guidelines, treatment, and protocols. Doctors from Delhi, Kerala, Jharkhand, Maharashtra, Arunachal Pradesh, Tamil Nadu, Kerala, Punjab, Andhra Pradesh, Rajasthan, Mizoram, Karnataka, Manipur, Assam, Odisha, Gujarat, Chandigarh, Telangana and Uttarakhand participated in the VC.

The Health Minister stated that the prevention, containment, and management of COVID-19 in the country are being monitored at the highest level and various actions have been initiated in collaboration with the States. He informed that the Hon'ble Prime Minister is regularly monitoring and reviewing the situation with the top officials of concerned Ministries/Departments and States/UTs. Dr. Harsh Vardhan reviewed the status of the preparedness in terms of availability of beds, isolation wards, laboratory readiness for high test volumes.

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**8 Karnataka Medical Colleges Told Not To Admit Patients From Kerala
During Coronavirus Epidemic**



While Kerala's Kasaragod has come as a hotbed for coronavirus in the state with the rising number of infection cases, the neighbouring Dakshina Kannada district of Karnataka has directed 8 medical colleges of the state to not admit patients from Kerala. Earlier, an addendum order released by the Karnataka government on March 23, stated the necessity of closing borders as with the already existing shortage of health facilities, treatment of patients from other states will cause issues for the people of Karnataka.

Exercising powers under section 2 of the Epidemic Diseases Act, 1898 and enabling provisions of the Disaster Management Act 2005, the Karnataka government ordered for imposing border restrictions over movement of patients across the border for treatment or diagnosis.

TW reports that the Dakshina Kannada-Kerala border was closed nearly two weeks ago and police personnel have been deployed at the border to ensure that no vehicle crosses the border. Recently, the Kerala High Court had directed the Centre to open the Kasaragod-Mangaluru National Highway and said Karnataka had no powers to close it. In response, Dakshina Kannada MP Nalin Kumar Kateel had said that it is the responsibility of the state government to take care of its citizens. Later, slamming Kerala chief minister Pinarayi Vijayan, Mangaluru City North MLA Dr Y Bharath Shetty had further tweeted, "50% of the #COVID19 cases in Wenlock are from Kasaragod. With the failure of @vijayanpinarayi's administration and healthcare facilities, Kasaragod alone has 100+ cases which is the total count of Karnataka. We can't let this pandemic spread to Dakshina Kannada.

Now, in view of increasing COVID-19 cases in the neighbouring Kasaragod district, the Department of Health and Family Welfare in Dakshina Kannada has issued a circular to 8 medical colleges in the district asking them not to admit any patients from Kerala in their hospitals. The circular dated April 1, 2020, and released to media on Thursday has been sent to A. J. Medical College, Father Muller Medical College, Kasturba Medical College, Yenepoya Medical College, Srinivasa Medical College, K.S. Hegde Medical College, KVG Medical College and Kanachuru Medical College, reports The Hindu. The circular was sent after a meeting chaired by district in-charge secretary and special COVID-19 officer for Dakshina Kannada V. Ponnuraj.

<https://medicaldialogues.in/state-news/karnataka/8-karnataka-medical-colleges-told-not-to-admit-patients-from-kerala-during-coronavirus-epidemic-64523>

UK Extends Work Visas For Indian, Foreign Doctors Amid Coronavirus Outbreak



London: The UK government on March 31 confirmed that foreign doctors, including from India, whose visas are set to expire before October this year will get an automatic extension for one year as they battle the coronavirus pandemic for the country's National Health Service (NHS). The extension, announced by the UK Home Secretary, will apply to around 2,800 migrant doctors, nurses and paramedics employed by the NHS whose visa is due to expire before October 1. "Doctors, nurses and paramedics from all over the world are playing a leading role in the NHS's efforts to tackle coronavirus and save lives. We owe them a great deal of gratitude for all that they do," said the UK Home Secretary. "I don't want them distracted by the visa process. That is why I have automatically extended their visas free of charge for a further year, the Indian-origin minister said. The free of charge extension will also apply to their family members, demonstrating how valued overseas NHS staff are to the UK, the Home Office said. To get more doctors and nurses on the frontline, the restriction on the amount of hours student nurses and doctors can work in the NHS has also been lifted.

On top of these changes, pre-registered overseas nurses who are currently required to sit their first skills test within three months and to pass the test within eight months, will now have this deadline extended to the end of the year. This will give overseas nurses more time to pass their exams, whilst they spend the immediate term working on the frontline. Trainee doctors and nurses will also not be limited by the number of hours they can work in the NHS during term time, the Home Office said. The extension to NHS visas will not only be fee-free and automatic but also exempt from the Immigration Health Surcharge (IHS). The annual IHS, which was recently further hiked, has been branded as "unfair" by Indian doctors because they already pay their taxes. "We believe that this surcharge is discriminatory and unfair, as the overseas workers are already paying their due share of National Insurance contributions, superannuation and income tax," the British Association of Physicians of Indian Origin (BAPIO) said in its letter to the Prime Minister just last week.

"We request you to remove the health surcharge with immediate effect. The NHS has been in a workforce crisis for several years, but now with the COVID-19 epidemic, there has never been a worse time for an overstrained service, and we require all the help we can get to meet the challenges, read the letter, signed by the BAPIO President, the chair and the Secretary Professor. The latest move could be seen as a sign that the UK government may be having a rethink on the surcharge, hiked from 400 pounds to 624 pounds per year and aimed at boosting NHS funds, being imposed on medics working for the health service.

04-04-2020



New Delhi: Amid the nationwide panic due to ongoing coronavirus (COVID 19) pandemic, some unscrupulous elements are circulating fabricated information in the name of the apex Medical Council of India (MCI). Concerned with the same hindering the interest of medical students, the Board of Governors in Supersession of the MCI has issued an official notice alerting all the students, and authorities to be aware of the spoofed letters, circulars and notices in the name of the MCI BoG forwarded by some touts.

The MCI has also warned of strict action against the guilty for circulating fake information on social media. The effect was announced in a recently issued notice wherein the apex medical council clearly stated that it has come to the notice of the Board of Governors in Supersession of the Medical Council of India that a fake letter shown below is circulating in social media. It is brought to the attention of all concerned that there is no such letter issued by BoG, MCI. Apparently, the recent forged circular that was circulated via unknown persons saying that all MBBS students will be recruited to fight the virus; was so carefully drafted that it nearly seemed genuine enough to rely on. The fake notice issued in the name of MCI's Secretary-General Dr RK Vats to all Deans and Principals of Government and Private Medical Colleges was regarding the advisory for UG classes in view of coronavirus epidemic which had mentioned "in view of the increasing spread, we may need assistance in health care. Therefore, all Government/Private Medical Colleges are advised to recruit all MBBS Undergraduate Interns and students of Part-II of 3rd MBBS starting 3rd April. Other UG courses shall remain suspended. All State/UT Govt. and Universities are to be taken full responsibilities of training, preventing and transport of these students."

This fabricated notice was later circulated all over the social media. Therefore, bashing the false information, the MCI has said that it has not issued any notice to the said effect and urged the concerned students and other authorities to be rely only on the notices posted on the official website of medical regulatory bodies. "Please note that all important Letters, Circular and Public Notice are posted on the Medical Council of India website i.e. www.mciindia.org It is advised to check the website of MCI for genuine notices, circulars and letters. Moreover these are sent to the State /UT Govts. DMEs, VCs, Dean/Principals of medical colleges and a copy is sent to the Ministry of Health & Family Welfare, Govt. of India." "All concerned are alerted to rely upon genuine letters, circulars and notices available on MCI website only." Meanwhile, the Medical Council of India is initiating action under the relevant law against such fake messages in social media, the notice added. The notice as issued by the MCI and uploaded on its official website is attached below:

20 Existing, 22 Potential Coronavirus Hotspots In India: Union Health Ministry



New Delhi: The Union Health Ministry on Thursday said it has identified 20 existing and 22 potential hotspots of COVID-19 in the country and asserted that although there is no evidence of widespread community transmission, containment measures will require large human resource. The ministry said this in an advisory on human resource management of COVID-19 to provide guidance to the states on manpower that can be mobilized for the management of the disease along with possible role assignments and their training requirements.

Read Also: Dialysis in COVID – 19 patients: Union Health Ministry releases guidelines "Although there is no evidence to widespread community transmission, 20 existing and 22 potential hotspots have been identified. The containment measures to break the cycle of transmission and clinical management of those affected would require large human resource," it said in the document. The advisory stressed on capacity building, saying identified human resource needs to be trained online using online training programs developed by the ministry.

The training for different target groups shall cover areas like field surveillance, contact tracing, sampling, packaging and shipment of specimen, hospital infection prevention and control, including use of appropriate PPEs and biomedical waste management, clinical case management including ventilator management, training on managing quarantine and isolation facilities and community based training in psycho social care, the document said.

<https://medicaldialogues.in/news/coronavirus/20-existing-22-potential-coronavirus-hotspots-in-india-union-health-ministry-64487>

Tablighi Jamaat Attendees Spit At Doctors At Delhi Quarantine Units



New Delhi: A total of 167 attendees were taken to the makeshift quarantine centres set up on the railway property in Tughlakabad on Tuesday evening after being evacuated from the Nizamuddin Markaz, the Tablighi Jamaat headquarters in south Delhi which has emerged as a Covid-19 hotspot. Some of the 160-odd Tablighi Jamaat attendees quarantined at a railway facility in southeast Delhi "misbehaved" with and "even spit" at doctors and healthcare personnel attending to them, a railway spokesperson said. A total of 167 attendees were taken to the makeshift quarantine centres set up on the railway property in Tughlakabad on Tuesday evening after being evacuated from the Nizamuddin Markaz, the Tablighi Jamaat headquarters in south Delhi which has emerged as a Covid-19 hotspot. After the attendees were accommodated in the facility, residents of the railway colony raised concerns over their safety and said they feared about spread of the deadly virus, prompting senior officials to request local authorities for necessary action, sources said.

"At the quarantine centres, they (attendees) misbehaved with the staff and even raised objections over the food being served to them... They even spit at the doctors and those attending to them and refused to stop roaming around the quarantine facilities," Northern Railway spokesperson Deepak Kumar said. "We informed the DM (district magistrate of) South East Delhi to arrange necessary security to control them or to shift them to any other suitable place. At 5:30 pm, four Delhi Police constables and six CRPF jawans along with a PCR van have been deployed at the quarantine centres," Kumar said.

Ninety-seven of the attendees were accommodated in the Diesel Shed Training School Hostel Quarantine Centre and 70 were kept at the RPF Barrack Quarantine Centre by the district authorities. Residents alleged that the colony was not sanitized even 24 hours after the people were quarantined there. Fearing spread of the virus, the residents remained indoors and could not even go out to procure essentials. "While standing near the bus, many of the people coughed, sneezed and even spit on the road. How are we to feel safe?" a resident told PTI. Sources say that senior officials of the railways have already spoken to the district authorities on the issue. "The railways has informed the relevant authorities and steps are being taken to ensure their safety," one of the sources said. Tabligh-e-Jamaat's Markaz in Nizamuddin West has emerged as an epicentre for spread of the coronavirus in different parts of the country after thousands of people took part in a congregation from March 1-15. Six people who died in Telangana and one in Jammu and Kashmir had attended the congregation. In Delhi alone, 24 participants tested positive for the disease. By Wednesday morning, a total of 2,346 persons were evacuated from the centre, of whom 536 were hospitalised, Delhi Chief Minister Arvind Kejriwal said. After the matter came to light, the Centre and state governments swung into action to trace people who had attended the congregation. The railways helped in tracing people who came in contact with the participants, many of whom took trains bound for southern India from Delhi. As many as five trains and thousands of people are now under the scanner.

03-04-2020

Online Classes For UG Medical Students; RGUHS Issues Notice



Bengaluru: Through a recent notification, the Rajiv Gandhi University of Health Sciences, Karnataka (RGUHS) has informed regarding online classes for undergraduate students of all the affiliated colleges. The varsity has clearly stated that as per the Instructions of Government of India and Government of Karnataka Classes are

suspended in a

II the colleges affiliated to Rajiv Gandhi University of health sciences, Karnataka. However, University had directed the colleges to arrange and conduct classes online by utilizing the technological tools. Accordingly many colleges have taken initiative to conduct online classes.

The colleges which have started online classes are highly appreciated. All other colleges are instructed to make necessary arrangements to conduct online classes, and need to collect feedback from the students regarding the arrangements made. The same shall be reported to RGUHS without fail at the earliest to vc@rguhs.ac.in /registrar@rguhs.ac.in If you find any difficulty you may contact dean faculty of the respective discipline.

<https://education.medicaldialogues.in/universities/online-classes-for-ug-medical-students-rguhs-issues-notice-64480>

Incubation period

Incubation period

Evidences to be quoted SARS-CoV-2 (COVID-19)

We present to you a series of daily questions related to various aspects of Covid-19, which summarizes what is known and what additional information is needed.

(Source: DHS Science and Technology, Master Question List for COVID-19 (caused by SARS-CoV-2), Weekly Report, 18 March 2020)SARS-CoV-2 (COVID-19)

Incubation Period (Part 4)

How long after infection do symptoms appear? Are people infectious during this time?

What do we know?

- The best current estimate of the COVID-19 incubation period is 5.1 days, with 99% of individuals exhibiting symptoms within 14 days of exposure.¹ Fewer than 2.5% of infected individuals show symptoms sooner than 2 days after exposure.¹
- The reported range of incubation periods is wide, with high-end estimates of 24,² 11.3,³ and 18 days.⁴
- Individuals can test positive for COVID-19 despite lacking clinical symptoms.^{2,5-8}
- Individuals can be infectious while asymptomatic,⁷⁻¹⁰ and asymptomatic individuals can have similar amounts of virus in their nose and throat as symptomatic individuals.¹¹
- Infectious period is unknown, but possibly up to 10-14 days.¹²⁻¹⁴
- On average, there are approximately 4¹⁵ to 7.5⁴ days between symptom onset in successive cases of a single transmission chain.
- Most individuals are admitted to the hospital within 8-14 days of symptom onset.¹⁶
- Patients are positive for COVID-19 via PCR for 8-37 days after symptom onset.¹⁶
- Individuals may test positive via PCR for 5-13 days after symptom recovery and hospital discharge.¹⁷ The ability of these individuals to infect others is unknown.
- According to the WHO, there is no evidence of re-infection with SARS-CoV-2 after recovery.¹⁸
- Experimentally infected macaques were not capable of being reinfected after their primary infection resolved.¹⁹

What do we need to know?

- What is the average infectious period during which individuals can transmit the disease?
- Are individuals infectious after hospital discharge and clinical recovery, or are positive PCR tests only detecting non-infectious virus?
- Can individuals become re-infected after recovery? If so, how long after?

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(Source: DHS Science and Technology, Master Question List for COVID-19 (caused by SARS-CoV-2), Weekly Report, 18 March 2020)

(To be continued)

More than 400 people tested positive; PM gives clue at 'staggered' exit after 21-day lockdown

Prime Minister Narendra Modi gave hint of a "staggered" exit from this lockdown after the 21-day period ends on April 14 whereas the nationwide count of confirmed cases of the deadly coronavirus infection has crossed 2,300 with 73 deaths.

A huge congregation of Tablighi Jamaat in the Delhi's Nizamuddin area this month emerged as the prime hotspot of the coronavirus outbreak. Authorities had stated that almost 9,000 people including the members of the Jamaat and their primary contacts are identified and quarantined throughout the country. Among this also includes 1,306 foreigners are associated with the Jamaat.

The numbers declared by various states, such as Maharashtra, Tamil Nadu and Delhi, showed more than 400 positive cases getting reported on Thursday. The total count of confirmed cases has reached to 2,360 and 14 more deaths were reported on Thursday. Majority of the new cases are related to the congregation meet.

The Union Home Ministry reported nationwide count at 53 deaths and 2,069 confirmed cases of infection that includes 55 foreign citizens.

On Friday morning, Prime Minister Modi, shared a video message with people and in the meantime interacted with chief ministers via video conference and have asked them to focus on COVID-19 containment measures such as testing, finding, isolating and quarantine. It is vital to work on a war foothold, identify the hotspots, enfold them and guarantee that the infection does not spread.

An official statement stated that Modi also discussed for communicating a common exit strategy to safeguard "staggered return of the population" as the 21-day nationwide lockdown ends on 14th April. Health Ministry Joint Secretary Lav Agarwal said that the Prime Minister has advised states to manage the coronavirus epidemic at the district level.

Meanwhile, random attacks on doctors, social workers and police personnel were reported raising concerns over their safety. Seven persons were arrested for the attack on health workers in Madhya Pradesh's Indore city. They had gone to quarantine relatives and associates of a coronavirus patient but were attacked with stones by a wild mob. Two women doctors were injured in this attack. A video of this attack had gone viral on social media.

Union Home Secretary Ajay Bhalla said that those violating laws will be punished with jail term up to two years and with fine.

Aviation Minister Hardeep Singh Puri said that airlines are allowed to book tickets for flights after 14th April. Resumption of international flights will also be considered on a case-by-case basis, depending on the countries they are arriving from, after the end of 21-day lockdown.

Air India has got approvals from Indian and Chinese authorities to operate cargo flights to Shanghai and Hong Kong to get medical supplies in the country.

In Maharashtra, 81 more people tested positive during the day, taking the count to 416, while 2 more patients died due to the infection taking the count to 19.

The death of a coronavirus patient from Mumbai's Dharavi, which is one of the biggest slums in Asia, has sparked fear and panic of its spread in the extremely congested area. Contact tracing and testing as per protocol has been conducted in the area. Numerous small-scale industries and workshops of leather goods, textiles and pottery operate from this slum that is spread over 613 acres.

Among 1,400 people from Maharashtra who attended the Tablighi Jamaat congregation in Delhi, 1,300 of them have been found.

In Delhi, Chief Minister Arvind Kejriwal said that there are 208 coronavirus patients in the capital, out of which 108 were evacuated from the Nizamuddin Markaz of the Tablighi Jamaat. On Thursday, two people who had attended the congregation died due to coronavirus and warned that the number of positive cases might shoot up in coming days.

The Health Ministry said domestic local manufacturing of N-95 masks has been paced up, whereas orders are placed for more than 1.5 crore personal protective equipments and the supply has already begun.

The opposition party Congress demanded that the government should immediately assign an economic task force to propose short and medium term plans to protect and revive the economy. It also demanded a financial assistance plan to comfort those affected due to lockdown.

More than 9,40,000 people are tested positive globally since the deadly coronavirus outbreak in China in December 2019, and more than 47,000 have lost their lives.

Source: ET Healthworld

01-04-2020

Dialysis In COVID – 19 Patients: Union Health Ministry Releases Guidelines

New Delhi: COVID-19, a disease caused by a novel corona virus (SARS CoV-2), is currently a pandemic, which produces high morbidity in the elderly and in patients with associated comorbidities. Chronic kidney disease stage-5 (CKD-5) patients on dialysis [maintenance hemodialysis (MHD) or continuous ambulatory peritoneal dialysis (CAPD)] are also vulnerable group because of their existing comorbidities, repeated unavoidable exposure to hospital environment and immunosuppressed state due to CKD-5. These patients are therefore not only more prone to acquire infection but also develop severe diseases as compared to general population.

The Union Health Ministry has released guidelines for conduction of dialysis on COVID-19 patients. Following are its major recommendations.: Patients on regular dialysis should adhere to prescribed schedule and not miss their dialysis sessions to avoid any emergency dialysis. There will be three situations of patients who require dialysis; patients already on maintenance dialysis, patients requiring dialysis due to acute kidney injury (AKI) and patients critically ill requiring continuous renal replacement therapy (CRRT).

General Guidelines for Administration

1. State/UT should identify and earmark at-least one hemodialysis facility with adequate number of dialysis machines, trained staff, reverse osmosis (RO) water system and other support equipment as preparatory fixed-point dialysis unit in case of rise of Covid-19 epidemic.
2. Health departments may issue directives to the district administrations allowing easy movements of these patients (with one attendant) to dialysis facility. Patients who do not have private vehicles, government run transport system should be organized for facilitating transport of these patients. Patients should use their hospital papers as pass to commute to the dialysis unit.
3. District administration should ensure that service providers for the dialysis consumables, both for MHD and CAPD should be allowed to deliver the material to the hospital or home as the case may be.

General Guidance for Dialysis Unit

1. Adequate medical supplies such as dialysate, dialyzers and tubing, catheters, fistula needles, disinfectant and medicines etc. must be ensured in adequate quantity
2. A sign board should be posted prominently in the local understandable language as well as Hindi and English asking patients to report any fever, coughing or breathing problem in dialysis unit and waiting area. The information including images for education can be obtained on the International Society of Nephrology website <https://www.theisn.org/covid-19>
3. All hemodialysis units should educate their personnel in hemodialysis units; including nephrologists, nurses, technicians, other staff and all patients undergoing MHD along with their care givers about COVID 19
4. All universal precautions must be strictly followed.
5. All staff should strictly follow hand hygiene (seven steps) with soap and water for 20 second before handling any patient and in between two patients. If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. If hands are visibly soiled or dirty, they should be first washed with soap and water and then an alcoholic hand rub used. Avoid touching your eyes, nose, and mouth with unwashed hands.
6. Medical and support staff treating infected patients should

be monitored for COVID infection at the dialysis facility and should take necessary action if found infected. 7. Dialysis units should organize healthcare workers shift duties in a way that work of dialysis unit is not affected. 8. All hemodialysis units should be aware of the testing, triage and notification policy recommended by the Union Ministry of health and Family welfare and those by State/ UT Health Departments as well as District health authorities. 9. Some of the dialysis unit staff should be trained for donning and doffing of Personal Protective Equipment (PPE) so that they can be used for treatment of COVID-19 positive patients. 10. All staff should be trained for cough etiquette, hand hygiene and proper use and disposal of mask, gown and eye glasses and the need to protect themselves. 11. All patients with suspected COVID-19 be tested as per the local health authorities' guidelines 12. Patients with suspected or positive COVID-19 should be referred to COVID-19 care team as per local guidelines

GUIDELINES FOR HEMODIALYSIS I. For Patients

a. Before Arrival to Dialysis Unit

1. All units should instruct their patients to recognize early symptoms of COVID-19 (recent onset fever, Sore throat, Cough, recent Shortness of breath/dyspnea, without major inter- dialytic weight gain, rhinorrhea, myalgia/bodyache, fatigue and Diarrhea) and contact dialysis staff before coming to dialysis center. The unit needs to make necessary arrangement for their arrival in the screening area.
2. Patients, who are stable on MHD may be encouraged to come to the unit alone without any attendant

b. Screening Area

1. We recommend that dialysis unit should have a designated screening area, where patients can be screened for COVID-19 before allowing them to enter inside dialysis area. Where this is not possible, patients may wait away from the dialysis unit until they receive specific instructions from the unit staff.
2. The screening area should have adequate space to implement social distancing between patients and accompanying persons while waiting for dialysis staff. In screening area, every patient should be asked about:
 - Symptoms suspected of COVID-19 as above.
 - History of contact with a diagnosed case of COVID 19 2 of 7
 - History of contact with person who has had recent travel to foreign country or from high COVID-19 prevalence area within our country as notified by the Central and State/ UT governments respectively.
3. Patients with symptoms of a respiratory infection should put on a facemask before entering screening area and keep it on until they leave the dialysis unit. Dialysis unit staff should make sure an adequate stock of masks is available in screening area to provide to the patients and accompanying person if necessary.
4. There should be display of adequate IEC material (posters etc.) about COVID – 19 in the screening area.

c. Inside Dialysis Unit

1. Suspected or positive COVID-19 patients should properly wear disposable three-layer surgical mask throughout dialysis duration.
2. Patients should wash hands with soap and water for at least 20 seconds, using proper method of hand washing. If soap and water are not readily available, a hand sanitizer containing at least 60% alcohol can be used.
3. Patients should follow cough etiquettes, like coughing or sneezing using the inside of the elbow or using tissue paper.
4. Patients should throw used tissues in the trash. The unit should ensure the availability of plastic lined trash cans appropriately labeled for disposing of used tissues. The trash cans should be foot operated ideally to prevent hand contact with infective material.
5. There should be display of adequate IEC material (posters etc.) about COVID – 19 in the dialysis area.

II. For Dialysis Staff

a. Screening Area

1. The unit staff should make sure an

adequate stock of masks and sanitizers are available in screening area to provide to the patients and accompanying person if necessary. b. During Dialysis 1. It should be ensured that a patient or staff in a unit does not become the source of an outbreak. 2. Each dialysis chair/bed should have disposable tissues and waste disposal bins to ensure adherence to hand and respiratory hygiene, and cough etiquette and appropriate alcohol-based hand sanitizer within reach of patients and staff. 3. Dialysis personnel, attendants and caregivers should also wear a three-layer surgical facemask while they are inside dialysis unit. 4. Ideally all patients with suspected or positive COVID-19 be dialyzed in isolation. The isolation ideally be in a separate room with a closed door, but may not be possible in all units. The next most suitable option is the use of a separate shift, preferably the last of the day for dialyzing all such patients. This offers the advantage of avoiding long waiting periods or the need for extensive additional disinfection in between shifts. The next suitable option is to physically separate areas for proven positive and suspected cases. Where this is also not possible, we suggest that the positive or suspected patient may be dialyzed at a row end within the unit ensuring a separation from all other patients by at least 2 meters. 5. Staff caring for suspected or proved cases should not look after other patients during the same shift. 6. Dialysis staff should use of all personal protective equipment (PPE) for proven or strongly suspected patients of COVID-19. Isolation gowns should be worn over or instead of the cover gown (i.e., laboratory coat, gown, or apron with incorporate sleeves) that is normally worn by hemodialysis personnel. If there are shortages of gowns, they should be prioritized for initiating and terminating dialysis treatment, manipulating access needles or catheters, helping the patient into and out of the station, and cleaning and disinfection of patient care equipment and the dialysis station. Sleeved plastic aprons may be used in addition to and not in place of the PPE recommended above. 7. Separating equipments like stethoscopes, thermometers, Oxygen saturation probes and blood pressure cuffs between patients with appropriate cleaning and disinfection should be done in between shifts. 8. Stethoscope diaphragms and tubing should be cleaned with an alcohol-based disinfectant including hand rubs in between patients. As most NIBP sphygmomanometer cuffs are now made of rexine they should also be cleaned by alcohol or preferably hypochlorite-based (1% Sodium Hypochlorite) solutions however the individual manufacturer's manuals should be referred to. 9. Staff using PPE should be careful of the following issues: ▪ While using PPE, they will not be able to use wash room so prepare accordingly ▪ After wearing eye shield, moisture appears after some time and visibility may become an issue. Therefore, machine preparation can be done in non-infected area before shifting to near the patient ▪ If dialysis is to be done bed-side in the hospital, portable RO should be properly disinfected with hypochlorite (1% Sodium Hypochlorite) solution between use of two patients

4 of 7 DISINFECTION AND DISPOSAL PRACTICES IN DIALYSIS UNIT

▪ Bed linen should be changed between shifts and used linen and gowns be placed in a dedicated container for waste or linen before leaving the dialysis station. Disposable gowns should be discarded after use. Cloth gowns should be soaked in a 1% hypochlorite solution for 20 minutes before sluicing and then be transported for laundering after each use. ▪ Inside dialysis unit, clean and disinfect frequently touched surfaces at least thrice daily and after every shift. This includes bedside tables and lockers, dialysis machines,

door knobs, light switches, counter tops, handles, desks, phones, keyboards, toilets, faucets, and sinks etc. ▪ It is recommended that solutions for disinfection be composed either of hypochlorite, alcohol, formaldehyde or glutaraldehyde for disinfection of surfaces in accordance with the manufacturer's instructions. Almost all common disinfectant solutions are effective in killing the virus on surfaces, the key is effective and frequent cleaning. ▪ Bleach solution o Mix 1 liter of Medichlor with 9 liters of water. This solution can be used for upto 24 hours after which it should be discarded and a fresh solution prepared. o As an alternative 10 Grams of household bleaching powder can be dissolved in a liter of water and used for a period of 24 hours. ▪ Alcohol based solutions ▪ Ensure solution has at least 60% alcohol. Appropriate commercially available solutions include Aerodosin a mixture of isopropanol, glutaraldehyde and ethanol or lysoformin a mixture of formaldehyde and glutaraldehyde can be used. ▪ Wear unsterile but clean disposable gloves when cleaning and disinfecting surfaces. Gloves should be discarded after each cleaning. If reusable gloves are used, those gloves should be dedicated for cleaning and disinfection of surfaces for COVID-19 and should not be used for other purposes. Clean hands by above method immediately after gloves are removed. ▪ For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces. After cleaning, launder items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely. ▪ Wear disposable gloves when handling dirty laundry from an ill person and then discard after each use. Do not shake dirty laundry. This will minimize the possibility of dispersing virus through the air. ▪ Clean and disinfect clothes buckets or drums according to guidance above for surfaces. If possible, consider placing a bag liner that is either disposable (can be thrown away) or can be laundered.

5 of 7 DIALYSIS PATIENT WITH ACUTE KIDNEY INJURY (AKI)

A small proportion of patients (~5%) of COVID – 19 develops AKI. The disease is usually mild but a small number may require RRT (Renal Replacement Therapy). In addition, even smaller proportion of patients with secondary bacterial infection will have septic shock, drug nephrotoxicity or worsening of existing CKD severe enough to require RRT (Renal Replacement Therapy). ▪ It is suggested that all modalities of RRT may be used for patients with AKI depending on their clinical status. ▪ Patient admitted in other ward of the hospital with AKI should be preferably given bed-side dialysis rather than shifting patient in main dialysis unit. ▪ In such situation portable reverse osmosis water in a tank will serve the purpose for the dialysis. ▪ If more dialysis is expected in selected area, dialysis machine may be left in the same area for future dialysis

CONTINUOUS RENAL REPLACEMENT THERAPY (CRRT)

▪ CRRT machines are free standing and can function anywhere in the hospital using sterile bagged replacement fluid and dialysate, but operating costs are high.

OTHER EXTRACORPOREAL THERAPY FOR COVID-19

▪ Use of cytokine removal therapies with Cytosorb, Oxiris and other similar devices is unproven and is not recommended except in the context of a clinical trial. ▪ Cytokine storm associated with elevated levels of IL-6, IL-18 and IFN gamma are associated with more severe disease and higher mortality. Extracorporeal therapies using high volume hemofiltration or adsorption to decrease cytokine levels may theoretically be expected to confer benefit and 1 study of HVHF at

6L/hr showed cytokine reduction and improvement in SOFA scores in septic patients. PERITONEAL DIALYSIS 1. Patients already on CAPD ▪ Patients who are already receiving peritoneal dialysis (PD) treatment have the relative advantage over patients who are receiving hospital or satellite-based haemodialysis treatment as they will not be exposed to hospital environment. This will reduce their exposure to infection. However, they should arrange their delivery of supply well in time to avoid missing dialysis exchanges. ▪ Used dialysis bags and tubing should be properly disposed using 1% hypochlorite solution first and disposed in a sealed bag. Used dialysis fluid should be drained in the flush 6 of 7 2. New patient planned for CAPD ▪ It will be difficult to maintain a service that can commence new patients on PD, mainly through a lack of healthcare worker to insert PD catheter and to provide the intensive training required. Therefore, initiation of new patient should be avoided. 3. Acute PD ▪ Use of acute peritoneal dialysis can be lifesaving and should be used as and when required and, in the setting, where hemodialysis facility is not available. Health care worker should use all precautions while initiating acute PD and discard used consumables properly. PERSONAL PROTECTIVE EQUIPMENTS (PPE) Personal protective equipment must be used while dialyzing COVID-19 positive patients. These include: ▪ Shoe covers ▪ Gown ▪ Surgical cap or hood ▪ Goggles or eye shields ▪ Mask: Ideally all masks should be N95 respirators with filters. However, as the life of such masks is approximately 6-8 hours and they can be uncomfortable over a long term and are also in short supply, they should be prioritized for aerosol generating procedures, namely intubation, open suction and bronchoscopy. Surgical triple layer masks and cloth masks can be used as alternatives for all other procedures. ▪ Surgical gloves. The correct method of donning and doffing personal protective equipment's (PPE) can be viewed on YouTube at <https://youtu.be/NrKo2vWJ8m8>. However, it is always better to give hand on training of donning and doffing to staff who is going to handle suspected or positive patients. To read the full guidelines, click on the following link <https://www.mohfw.gov.in/pdf/GuidelinesforDialysisofCovid19Patients.pdf> covid-19 dialysis novel coronavirus continuous renal replacement therapy kidney disease Disclaimer: This site is primarily intended for healthcare professionals. Any content/information on this website does not replace the advice of medical and/or health professionals and should not be construed as medical/diagnostic advice/endorsement or prescription. Use of this site is subject to our terms of use, privacy policy, advertisement policy. © 2020 Minerva Medical Treatment Pvt Ltd

NICE Guidelines On Neonatal Parenteral Nutrition

NICE has released its latest 2020 guidelines on Neonatal parenteral nutrition. This guideline covers parenteral nutrition (intravenous feeding) for babies born preterm, up to 28 days after their due birth date and babies born at term, up to 28 days after their birth. Parenteral nutrition is often needed by preterm babies, critically ill babies, and babies who need surgery. Following are the major recommendations:

1. Indications for, and timing of, neonatal parenteral nutrition Indications for starting neonatal parenteral nutrition For preterm babies born before 31+0 weeks, start neonatal parenteral nutrition. For preterm babies born at or after 31+0 weeks, start parenteral nutrition if sufficient progress is not made with enteral feeding in the first 72 hours after birth. Start parenteral nutrition for preterm and term babies who are unlikely to establish sufficient enteral feeding, for example, babies with

a congenital gut disorder a critical illness such as sepsis. Indications for starting neonatal parenteral nutrition if enteral feeds are stopped For preterm babies on enteral feeds, start parenteral nutrition if: enteral feeds have to be stopped and it is unlikely they will be restarted within 48 hours enteral feeds have been stopped for more than 24 hours and there is unlikely to be sufficient progress with enteral feeding within a further 48 hours.

For term babies on enteral feeds, start parenteral nutrition if: enteral feeds have to be stopped and it is unlikely they will be restarted within 72 hours enteral feeds have been stopped for more than 48 hours and there is unlikely to be sufficient progress with enteral feeding within a further 48 hours. Timing of starting neonatal parenteral nutrition When a preterm or term baby meets the indications for parenteral nutrition, start it as soon as possible, and within 8 hours at the latest.

2. Administration of neonatal parenteral nutrition Venous access Use a central venous catheter to give neonatal parenteral nutrition. Only consider using peripheral venous access to give neonatal parenteral nutrition if: it would avoid a delay in starting parenteral nutrition short-term use of peripheral venous access is anticipated, for example, less than 5 days it would avoid interruptions in giving parenteral nutrition central venous access is impractical. Only consider surgical insertion of a central venous catheter if: non-surgical insertion is not possible long-term parenteral nutrition is anticipated, for example, in short bowel syndrome. Protection from light Protect the bags, syringes and infusion sets of both aqueous and lipid parenteral nutrition solutions from light.

3. Energy needs of babies on neonatal parenteral nutrition For preterm and term babies who need total neonatal parenteral nutrition, deliver energy as follows: If starting parenteral nutrition in the first 4 days after birth: give a starting range of 40 to 60 kcal/kg/day gradually increase (for example, over 4 days) to a maintenance range of 75 to 120 kcal/kg/day. If starting parenteral nutrition more than 4 days after birth: give a range of 75 to 120 kcal/kg/day. For preterm and term babies who are on enteral feeds in addition to neonatal parenteral nutrition, reduce the amount of energy that is given parenterally as enteral feeds increase. Term babies who are critically ill or have just had surgery For term babies who are critically ill or have just had surgery, consider giving parenteral energy at the lower end of the starting range in recommendation 1.3.1, and gradually increase to the intended maintenance intake.

4. Neonatal parenteral nutrition volume Standardised neonatal parenteral nutrition ('standardised bags') should be formulated in concentrated solutions to help ensure that the nutritive element of intravenous fluids is included within the total fluid allowance.

5. Constituents of neonatal parenteral nutrition Glucose For preterm and term babies, give glucose as follows: If starting parenteral nutrition in the first 4 days after birth: give a starting range of 6 to 9 g/kg/day gradually increase (for example, over 4 days) to a maintenance range of 9 to 16 g/kg/day. If starting parenteral nutrition more than 4 days after birth: give a range of 9 to 16 g/kg/day. Amino acids For preterm babies, give amino acids as follows: If starting parenteral nutrition in the first 4 days after birth: give a starting range of 1.5 to 2 g/kg/day gradually increase (for example, over 4 days) to a maintenance range of 3 to 4 g/kg/day. If starting parenteral nutrition more than 4 days after birth: give a range of 3 to 4 g/kg/day. For term babies, give amino acids as follows: If starting parenteral nutrition in the first 4 days after birth: give a starting range of 1 to 2 g/kg/day gradually increase (for example, over 4 days) to a maintenance range of 2.5 to 3 g/kg/day. If starting parenteral nutrition more than 4 days after birth: give a range of 2.5 to 3 g/kg/day.

Lipids and lipid emulsions For preterm and term babies, give lipids as follows: If starting parenteral nutrition in the first 4 days after birth: give a starting range of 1 to 2 g/kg/day gradually increase (for example, in daily increments of 0.5 to 1 g/kg/day) to a maintenance range of 3 to 4 g/kg/day. If starting parenteral nutrition more than 4 days after birth: give a range of 3 to 4 g/kg/day. For preterm and term babies with parenteral nutrition-associated liver disease, consider giving a composite lipid emulsion rather than a pure soy lipid emulsion.

Ratios of non-nitrogen energy to nitrogen, and carbohydrates to lipids When giving neonatal parenteral nutrition to preterm or term babies: use the values for each individual component in recommendations 1.5.1 to 1.5.4 provide non-nitrogen energy as 60% to 75% carbohydrate and 25% to 40% lipid use a non-nitrogen energy to nitrogen ratio in a range of 20 to 30 kcal of non-nitrogen energy per gram of amino acids (this equates to 30 to 40 kcal of total energy per gram of amino acid). When altering the amount of neonatal parenteral nutrition, maintain the non-nitrogen energy to nitrogen ratio, and the carbohydrate to lipid ratio, to keep within the ranges of ratios specified in recommendation 1.5.6.

Iron Do not give intravenous parenteral iron supplements to preterm or term babies on neonatal parenteral nutrition who are younger than

28 days. For preterm babies on neonatal parenteral nutrition who are 28 days or older, monitor for iron deficiency and treat if necessary (see recommendation 1.7.11). Calcium For preterm and term babies, give calcium as follows: If starting parenteral nutrition in the first 48 hours after birth: give a starting range of 0.8 to 1 mmol/kg/day increase to a maintenance range of 1.5 to 2 mmol/kg/day after 48 hours. If starting parenteral nutrition more than 48 hours after birth, give a range of 1.5 to 2 mmol/kg/day. Phosphate For preterm and term babies, give phosphate as follows: If starting parenteral nutrition in the first 48 hours after birth: give 1 mmol/kg/day increase to a maintenance dosage of 2 mmol/kg/day after 48 hours. If starting parenteral nutrition more than 48 hours after birth, give 2 mmol/kg/day. Give a higher dosage of phosphate if indicated by serum phosphate monitoring. Be aware that preterm babies may be at increased risk of phosphate deficit requiring additional phosphate supplementation. Ratio of calcium to phosphate Use a calcium to phosphate ratio of between 0.75:1 and 1:1 for preterm and term babies on neonatal parenteral nutrition. Other constituents of neonatal parenteral nutrition – general principles Vitamins Give daily intravenous fat-soluble and water-soluble vitamins ideally from the outset, but as soon as possible after starting parenteral nutrition, to maintain standard daily requirements. Give fat-soluble and water-soluble vitamins in the intravenous lipid emulsion to improve their stability. Electrolytes Give sodium and potassium in parenteral nutrition to maintain standard daily requirements, adjusted as necessary for the individual baby. Be aware that even if the parenteral nutrition solution contains sodium and potassium, additional supplements of these electrolytes can be given using a separate intravenous infusion. Magnesium Give magnesium in parenteral nutrition ideally from the outset, but as soon as possible after starting parenteral nutrition. Trace elements Give daily intravenous trace elements ideally from the outset, but as soon as possible after starting parenteral nutrition.

6. Standardised neonatal parenteral nutrition formulations ('standardised bags') When starting neonatal parenteral nutrition for preterm and term babies, use a standardised neonatal parenteral nutrition formulation ('standardised bag')[1]. Standardised bags should: be formulated to allow delivery of parenteral nutrition as recommended in the sections on neonatal parenteral nutrition volume and constituents of neonatal parenteral nutrition be prepared following nationally agreed quality standards. Continue with a standardised bag unless an individualised parenteral nutrition formulation is indicated, for example, if the baby has: complex disorders associated with a fluid and electrolyte imbalance renal failure.

7. Monitoring neonatal parenteral nutrition When taking blood samples to monitor the preterm or term baby's neonatal parenteral nutrition: collect the minimum blood volume needed for the tests use a protocol agreed with the local clinical laboratory to retrieve as much information as possible from the sample coordinate the timing of blood tests to minimise the number of blood samples needed. Blood glucose Measure the blood glucose level: 1 to 2 hours after first starting parenteral nutrition 1 to 2 hours after each change of parenteral nutrition bag (usually every 24 or 48 hours). Measure blood glucose more frequently if: the preterm or term baby has previously had hypoglycemia or hyperglycemia the dosage of intravenous glucose has been changed there are clinical reasons for concern, for example, sepsis or seizures. Blood pH, potassium, chloride and calcium Measure the blood pH, potassium, chloride and calcium levels: daily when starting and increasing parenteral nutrition twice weekly after reaching a maintenance parenteral nutrition. Measure blood pH, potassium, chloride or calcium more frequently if: the preterm or term baby has previously had levels of these components outside the normal range the dosages of intravenous potassium, chloride or calcium have been changed there are clinical reasons for concern, for example, in critically ill babies. Serum triglycerides Measure serum triglycerides: daily while increasing the parenteral nutrition lipid dosage weekly after reaching a maintenance intravenous lipid dosage. Measure serum triglycerides more frequently, but not more than once a day, if: the level is elevated the preterm or term baby is at risk of hypertriglyceridaemia, for example, if the baby is critically ill or has a lipaemic blood sample. Be aware that ongoing serum triglyceride monitoring may not be needed for stable preterm or term babies transitioning from parenteral nutrition to enteral nutrition. Serum or plasma phosphate Measure the serum or plasma phosphate level: daily while increasing the parenteral nutrition phosphate dosage weekly after reaching a maintenance intravenous phosphate dosage. Consider measuring serum or plasma phosphate more frequently: if the level has been outside the normal range if there are clinical reasons for concern, for example, metabolic bone disease for preterm babies born at less than 32+0 weeks. Iron status Measure ferritin, iron and transferrin saturation if a preterm baby is on parenteral

nutrition for more than 28 days. Liver function Measure liver function weekly in preterm and term babies on parenteral nutrition. Measure liver function more frequently than weekly if there are clinical concerns or previous liver function test levels outside the normal range. 8. Stopping neonatal parenteral nutrition For all babies, take into account the following when deciding when to stop parenteral nutrition: the baby's tolerance of enteral feeds the amount of nutrition being delivered by enteral feeds (volume and composition) the relative contribution of parenteral nutrition and enteral nutrition to the baby's total nutritional requirement the likely benefit of the nutritional intake compared with the risk of venous catheter sepsis the individual baby's particular circumstances, for example, a baby with complex needs such as short bowel syndrome, increased stoma losses or slow growth, may need long-term parenteral nutrition. For preterm babies born before 28+0 weeks, consider stopping parenteral nutrition within 24 hours once the enteral feed volume is 140 to 150 ml/kg/day, taking into account the factors in recommendation 1.8.1. For preterm babies born at or after 28+0 weeks and term babies, consider stopping parenteral nutrition within 24 hours if the enteral feed volume tolerated is 120 to 140 ml/kg/day, taking into account the factors in recommendation 1.8.1. 9. Service design Neonatal parenteral nutrition services should be supported by a specialist multidisciplinary team. Such teams could be based locally or within a clinical network. The neonatal parenteral nutrition multidisciplinary team should include a consultant neonatologist or paediatrician with a special interest in neonatology, a neonatal pharmacist and a neonatal dietitian, and should have access to the following: a neonatal nurse a pediatric gastroenterologist an expert in clinical biochemistry. The neonatal parenteral nutrition multidisciplinary team should be responsible for: governance, including: agreeing policies and protocols for the neonatal parenteral nutrition service ensuring that policies and protocols for neonatal parenteral nutrition are followed and audited monitoring clinical outcomes supporting delivery of parenteral nutrition, including: providing clinical advice providing enhanced multidisciplinary team input for preterm and term babies with complex needs, for example, babies with short bowel syndrome who may need long-term parenteral nutrition. Information and support for parents and carers Ask parents and carers of babies on parenteral nutrition how and when they would like to receive information and updates, and how much information they would like about their baby's care. Topics to discuss with parents or carers include: why their baby needs parenteral nutrition what parenteral nutrition involves the importance of good nutrition for newborn babies how long their baby is likely to need parenteral nutrition for common concerns, for example, central venous catheter placement, the risk of catheter-related infections, taking blood samples, and whether they can hold and care for their baby simultaneous enteral feeding, unless this is not possible how their baby's progress will be monitored how their baby will be weaned off parenteral nutrition. Give information to parents or carers that: is tailored to their baby's circumstances meets their needs and preferences is up to date, relevant and consistent between healthcare professionals is available in suitable formats (written and spoken, with information available to take away). For more guidance on communication (including different formats and languages), providing information, and shared decision making, see the NICE clinical guideline on patient experience in adult NHS services. Provide regular opportunities and time for parents and carers of babies on parenteral nutrition to discuss their baby's care, ask questions about the information they have been given, and discuss concerns.

Management Of Acute MI During COVID-19 Outbreak: New Recommendations

The outbreak of coronavirus disease 2019 (COVID-19) has become a global challenge and a public health emergency of international concern. Meanwhile, it is a herculean task to balance cardiovascular emergency patients and COVID-19 control. For acute myocardial infarction (AMI) patients with COVID-19, a safe and efficient medical environment should be ensured in parallel with effective reperfusion therapy.

Unfortunately, most medical centers do not have professionally protected cardiac catheterization rooms and cardiac care units (CCUs) for respiratory infectious diseases. Under these circumstances, the prevention of COVID-19 needs the coordination of all departments to ensure a smooth workflow. The hospital administrators and the collaboration of

multidisciplinary teams including the cardiology department, emergency department, infections department, pneumology department, radiology department, and the medical laboratory department are required for proper management of such cases.

Peking Union Medical College Hospital first proposed the following medical recommendations in China based on real-world experiences in AMI management during the COVID-19 outbreak. All the recommendations are in strict accordance with the COVID-19 prevention principles of the World Health Organization and the regulations from each national health authorities. The guideline has been published in the European Heart Journal.

Management of suspected STEMI patients with the potential risk of COVID-19 infection

Main recommendations are-

For STEMI patients with confirmed COVID-19, strict isolation should start immediately, and thrombolytic contraindications should be evaluated. Patients with thrombolytic contraindications should be transferred to the local designated infectious medical institution immediately for further treatment through the first-aid transport mode designated by the government. Patients without thrombolytic contraindications should first start intravenous thrombolysis and then transfer to the local designated medical institution of infectious disease for further treatment. For STEMI patients with suspected COVID-19 (defined as fever, respiratory symptoms, and/or epidemiological linkage to other COVID-19 cases or areas with cluster transmission), the emergency should be protected strictly according to the standard of the fever clinic. Routine blood examination, C-reactive protein, pharyngeal swab/sputum specimen/blood sample for detection of novel coronavirus nucleic acid, and chest computed tomography (CT) examination should be performed for COVID-19 confirmation. Considering the fact that most medical centers do not have professional protected interventional catheterization rooms, and the conflict between the time required for novel coronavirus nucleic acid detection and early reperfusion for AMI, it is recommended to start emergency intravenous thrombolysis for STEMI patients if COVID-19 cannot be excluded in a short time. Cardiologists should be contacted for the indications and contraindications, and myocardial reperfusion therapy should be initiated within 30 min. If COVID-19 was diagnosed after intravenous thrombolysis, patients should be transferred to the designated infectious medical institution for further treatment. If COVID-19 and other infectious diseases were excluded after intravenous thrombolysis, patients could be transferred to the CCU. Remedial coronary interventional therapy or intensive medical treatment could be considered depending on the status of the patient's coronary artery.

Special circumstances: if COVID-19 could be excluded by the expert group within ≤ 1 h, and the possibility of having COVID-19 was clinically small, cardiologists should evaluate the following two schemes: Monitor closely, conduct emergency coronary intervention immediately after the elimination of COVID-19. Proceed with onsite thrombolysis, make the treatment decision after comprehensive consideration of the benefit to risk ratio. During thrombolysis, review electrocardiogram, bedside echocardiography, and chest radiography. After thrombolysis, check the recanalization status of myocardial perfusion and perform chest CT immediately. For STEMI patients with low risk of COVID-19 (defined as no fever, respiratory symptoms, and epidemiological exposure to other COVID-19 cases or areas with cluster transmission), routine blood examination, electrocardiogram, chest CT, myocardial injury biomarkers, and/or bedside echocardiography should be done immediately. Bedside chest radiography can be considered an alternative to chest CT for patients with movement disorders or uncontrollable factors. Specialists in infectious diseases should be consulted urgently for the necessity of sending pharyngeal swab/sputum specimens/blood samples for the further exclusion of novel coronavirus nucleic acid. If the infectious disease specialists consider it unnecessary to send biological samples, patients should be transferred immediately to the cardiac catheterization room for emergency coronary interventional therapy or transferred to the CCU after intravenous thrombolysis. If the infectious disease specialists consider it indispensable to send biological samples for nucleic acid detection and patients have no contraindications for thrombolysis, thrombolysis should be conducted immediately in the emergency room. Pharyngeal swab/sputum specimen/blood sample for the novel coronavirus nucleic acid detection should be sent after the start of thrombolysis. After thrombolysis, patients should be considered for transfer to the designated infectious medical institution or CCU. If the patient had thrombolytic contraindications, the result of nucleic acid detection of COVID-19 should be waited for. Patients excluded from COVID-19 should be transferred immediately to the cardiac catheterization room for emergency coronary interventional therapy, and patients diagnosed with COVID-19 should be transferred to the local designated medical institution for infectious

diseases. Management of suspected unstable angina (UA)/NSTEMI patients with the potential risk of COVID-19 infection. Thrombolytic therapy in NSTEMI patients has no clinical benefit. Treatment strategies should be determined based on the risk stratification of coronary artery diseases. Therefore, it is necessary to evaluate the existence of COVID-19 as soon as possible. Main recommendations are- Confirmed patients with COVID-19 should be transferred to the designated medical institution immediately for further treatment. For NSTEMI patients who are suspected to have or are unable to be excluded from COVID-19, the following principles should be followed. Consult specialists on infectious diseases or respiratory physicians from designated medical institutions to confirm COVID-19 as soon as possible. Chest CT and novel coronavirus nucleic acid detection should be performed immediately for suspected cases. If COVID-19 can be excluded by the infectious disease specialist according to chest CT, it is recommended to choose a treatment strategy according to the risk stratification of NSTEMI-ACS: intervention or medication. If COVID-19 cannot be excluded by chest CT, routine medical treatment of NSTEMI should be given and risk stratification should be conducted while waiting for the results of nucleic acid detection. For patients with low or middle risk, routine medical therapy including oxygen inhalation, coronary artery dilatation, and antithrombotic treatment should be given in the emergency room. Blood oxygen saturation and other clinical data should be monitored closely for the prevention of malignant arrhythmia. For patients with high or extremely high risk, especially those with hemodynamic instability and strong indications for immediate interventional treatment, the high-level infection control panel should be started, and two or more specialists should co-determine the risk of COVID-19. If the risk of COVID-19 is considered high, patients should be transferred to the local designated medical institution for interventional treatment and enhanced supportive treatment. While waiting for the confirmation of COVID-19, efforts should be made to identify the patient's etiology. If a viral infection was a contributing factor or cause of myocardial injury, type 2 myocardial infarction should be diagnosed. The treatment strategy of type 2 myocardial infarction should be mainly based on primary diseases. Therefore, CT coronary artery scan should be completed at the same time as a chest CT examination for better determination of treatment strategy. In addition, risk factors of acute pulmonary embolism, such as orthopedic surgery, tumor, and deep vein thrombosis, should be investigated. Blood oxygen saturation, D-dimer, and ultrasound for thrombosis in lower limb deep veins should be performed to exclude acute pulmonary embolism. When necessary, CT pulmonary angiography could be completed at the same time as a chest CT. Clinicians need to be on high alert for misdiagnosis between pulmonary infarction induced by acute pulmonary embolism and COVID-19. Clinicians should also strengthen their vigilance of chest pains caused by aortic dissection or acute myocarditis. For NSTEMI patients excluded from COVID-19, early or time-limited intervention strategies should be selected immediately according to the risk stratification of NSTEMI-ACS. Patients should be enrolled in the CCU for further intensive medical therapy including oxygen inhalation, coronary artery dilatation, and antithrombotic treatment. For further reference log on to : <https://doi.org/10.1093/eurheartj/ehaa258> European Heart Journal myocardial infarction Heart attack covid 19 Source : European Heart Journal Disclaimer: <https://medicaldialogues.in/cardiology-ctvs/guidelines/management-of-acute-mi-during-covid-19-outbreak-new-recommendations-64450?infinitiescroll=1>

HEALTHY UPDATE

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