

Guidelines for Providing Services in Medical Departments During the COVID-19 Pandemic

Authors:

Bardia Yarmohammadi

Shahid Beheshti University of Medical Sciences

Amir Rigi

Islamic Azad University of Zahedan

Fatemeh Sahebkar

Islamic Azad University of Zahedan

Seyed-Amirabbas Ahadiat

Kashan University of Medical Sciences and

Health Services

Fatemeh Gharei

Shahid Beheshti University

Parichehr Heydarian

Ahvaz Jundishapur University of Medical Sciences

Reza Tavakoli

Isfahan University of Medical Sciences

Seyedeh-Atefe Seyedinnavadeh

Mazandaran University of Medical Sciences

Elham Pourmohammadi-Shahrbabaki

Tehran University of Medical Sciences

Mobina Bagherian Lemraski

Mazandaran University of Medical Sciences

Sara Khezrirad

Allameh Jafari Non-Profit, Non-Governmental
Higher Education Institute

Hessam Nikseresht

Jahrom University of Medical Sciences

Zeynab Abdollahi

Ahvaz Jondishapur University of Medical Sciences

Maryam Ebrahimpour

Kerman University of Medical Sciences

Mohammadhassan Sharafi

Tehran University of Medical Sciences

Seyyed-Mohammad Hashemi

Hormozgan University Of Medical Sciences

Parham Mahamed

Alborz University of Medical Sciences

Sabeteh Shirmohammadi Fard

Golestan University of Medical Sciences

Ilghar Hedayat Qarah Qayeh Loo

Tehran university of Medical Sciences

Hooman Esfahani

Shahrekord University of Medical Sciences

Zahra AttaranBondarabadi

Shahed University

Amirreza Khalaji

Tabriz University of Medical Sciences

Ghazaleh Haghighat

Hamadan University of Medical Sciences

Azam Darvishi

Mashhad University of Medical Sciences

Fatemeh Zamani

Mazandaran University of Medical Sciences

Tara Nikbakht

Islamic Azadi University, Tehran Medical Branch

Aria Sasannejad

Islamic Azad University, Isfahan (Khorasgan)
Branch

Ghazal Majidi

Tabriz University of Medical Sciences

Sajjad Ramezani

Kermanshah University of Medical Sciences

Ali Bitaraf

Kermanshah University of Medical Sciences

Monireh Saeidpour

Near East University

Amir Moein Jahromi

Tehran University of Medical Sciences

Hajar Ghasemi Falaverjani

Shahid Beheshti University of Medical Sciences

Elaheh Khodaei

Tehran University of Medical Sciences

Alireza Feizkhah

Guilan University of Medical Sciences

Sara Haghverdi

Kermanshah University of Medical Sciences

Razie Toghroli

Hormozgan University of Medical Science

Mohammad Eslami

Arak University of Medical Sciences

Azin Khorramdel

Tabriz University of Medical Sciences

Seyed Amin Mousavi

Tabriz University of Medical Sciences

Dorsa Beheshtiparvar

Isfahan University of Medical Sciences

DR. BARDIA YARMOHAMMADI

Raziye Dehbozorgi

Isfahan University of Medical Sciences

Fatemeh Taheri

Islamic Azad University Pharmaceutical Sciences Branch

Publisher: Kindle

GUIDELINES FOR PROVIDING SERVICES IN MEDICAL DEP...

CONTENTS

Chapters:

- 1. Guidelines for the Management of Neurological Diseases During the COVID-19 Pandemic**
- 2. Guidelines for the Management of Cardiac and Internal Diseases During the COVID-19 Pandemic**
- 3. Guidelines for the Management of and Dermatological Diseases During the COVID-19 Pandemic**

4. Guidelines for the Management of Ophthalmological Diseases During the COVID-19 Pandemic

5. Guidelines for the Management of Oral Diseases (Dental Interventions) During the COVID-19 Pandemic

6. Guidelines for the Management of Surgical Interventions During the COVID-19 Pandemic

7. Guidelines for the Management of ENT Diseases During the COVID-19 Pandemic

8. Guidelines for the Management of Psychiatric Diseases During the COVID-19 Pandemic

9. Guidelines for the Management of Pediatric Diseases During the COVID-19 Pandemic

10. Guidelines for the Management of Gynecological and Urologic Diseases During the

COVID-19 Pandemic

11. Guidelines for the Management of Rehabilitation Interventions During the COVID-19 Pandemic

12. Guidelines for the Management of Imaging and Radiological Interventions During the COVID-19 Pandemic

13. Guidelines for the Management of Orthopedic Treatments During the COVID-19 Pandemic

1. GUIDELINES FOR THE MANAGEMENT OF NEUROLOGICAL DISEASES DURING THE COVID-19 PANDEMIC

Precautions for Neurologists

In this pandemic, cases with COVID-19 can show with neurological manifestations or develop neurological complications during the treatment. Neurologists may find these cases in the clinic, emergency room and in-patient ward.

According to the 'Technical recommendations for prevention and control of new coronavirus infection in medical departments' developed by

General Office of the National Health Commission of the People's Republic of China and clinical features of these cases, we suggest the following precautions for neurologists, especially for those who are providing services in high-risk areas.

Cautions in Neurology Clinic

1. Neurologists should wear disposable work caps, medical protective masks, work clothes such as scrubs, disposable latex gloves and carry hand sanitizer that has ethanol, hydrogen peroxide or sodium hypochlorite.
2. Cases and their companions must have temperature assessed in triage commonly before entering the consulting room. To decrease cross-infection, companions should avoid entering the room. Everyone must wear disposable med-

ical masks.

3. For cases with neurological manifestations but also highly suspicious of COVID-19, it is suggested that the patient go to a fever clinic first and be evaluated by a neurologist later.
4. After work, doctors should remove the protective gear step by step based on the guideline protocol. It is forbidden to leave the contaminated area wearing personal protective equipment for the aim of preventing cross-infections.

Management in Neurological

Emergency and Staffing Acute

Stroke Green Process

1. The protection level in the emergency room and stroke green process should be at least at

level 2: wearing working clothes and caps, medical protective masks, goggles/face shields and disposable isolation gown. When managing suspected or approved cases of COVID-19 or cases with close contact history, the protection level should be appropriately raised: wearing medical protective masks, goggles/face shields, disposable medical protective clothing, disposable latex gloves and long shoe covers.

2. Neurological emergency and stroke green process should be exactly separated from common emergency and fever clinics to ensure no direct interaction with a case with fever.

3. Doctors should ask cases and their companions whether they have typical manifestations of COVID-19, such as fever, sore throat and so on, within two weeks of exposure or a contact history with suspected or approved cases. Cases

should have a chest CT at the same time of having a head CT. In any suspected conditions, a specialized medical staff should accompany the case to the fever clinic and perform stroke triage/emergency treatment in the fever clinic. The case should be admitted to an isolation ward after treatment. Cases without suspected conditions can be admitted to a buffer ward to receive the next treatment and do more monitoring for COVID-19 at the same time. A neurologist should round on these cases commonly. Cases will be transferred to the general ward of neurology only when COVID-19 has been definitely ruled out.

4. Cases who receive thrombolysis or thrombectomy should avoid entering the neurological intensive care unit and should be managed in a private room first. Health care providers should

pay close attention to those in isolation. If the body temperature (monitoring at least for 3 days), blood routine, chest CT and SARS-CoV-2 nucleic acid tests are negative, the case can be transferred to a semiprivate or multi-person department.

5. Medical staff treating neurological emergency and responsible for acute stroke green process must have a good work/life balance, avoid long working hours and sleep deprivation. Appropriate trainings and nutritional support are also very critical to fend off infections.

Management in Neurology Wards

1. During the epidemic period or working in regions with high risk of COVID-19, medical staff in general wards should wear disposable

work caps, medical protective masks and work clothes. It is suggested that to assess and treat cases with severe infection in an intensive care unit (ICU), a team of two should be organized to enter the regions and depart together. Making such partnership can help healthcare providers to look out for and help each other. In case one medical staff feels ill, which make him unable to continue to work in the ICU, the other one can assist.

2. Only one family companion is allowed for each case, and the companion must have had the same preliminary evaluations to exclude COVID-19 before entering the ward. A person at the entrance of the ward is required to take the temperature of anyone entering the ward. All subjects in the ward must wear disposable medical masks to avoid cross infection.

3. All people in the ward should be assessed with respect to body temperature routinely. Cases and their companions should have COVID-19 monitoring evaluation every few days until discharge. Once a case with fever has been detected, medical staff should notify the prevention and control team of the hospital immediately, then assist the treatment, evaluation, isolation and disinfection of departments.

4. If a highly suspected subject has been detected during the assessment, doctors should notify the prevention and control team and arrange for an in-hospital COVID-19 specialist visit immediately. Other cases, their companions and health care provider who came in contact with should be separated. The temperature and COVID-19 related manifestations of all contacts should be closely assessed. The case should be temporarily

taken to a separate room and then quickly transferred to the isolation ward or a designated hospital once the diagnosis has been approved. The space where the case stayed must be disinfected exactly.

2. GUIDELINES FOR THE MANAGEMENT OF CARDIAC AND INTERNAL DISEASES DURING THE COVID-19 PANDEMIC

Recommendations

Diagnostic Recommendations

For cases without any significant cardiovascular (CV) manifestations and low level troponin secretion in the absence of hemodynamic instability, we do not suggest routine evaluation of left ventricular function, and therefore would not commonly suggest echocardiography during acute COVID-19.

This will decrease exposure to health care work-

ers as echocardiography is unlikely to change treatment significantly in these cases. However, this strategy may need to be re-assessed on a case-by-case basis. For cases with hemodynamic or electrical instability, more than mild troponin increase or heart failure, more CV evaluation, including bedside echocardiography or a point of care ultrasound (POCUS), should be noted, based on experience. If the case with suspected or confirmed COVID-19 has any specific CV manifestations, ECG abnormalities, arrhythmia/heart block, and increased troponin, CAD and myocarditis should be noted. Although cardiac MRI is suggested as the gold standard non-invasive test for the diagnosis of myocarditis, in cases with COVID-19 and suspected myocarditis, the risk of exposure to HCW and other cases should be weighed carefully. If needed, rapid imaging

tailored to the specific clinical question should be used. The role of endomyocardial biopsy in this condition is unclear and may be noted if there is a suspicion for an alternative factor.

Treatment Recommendations

a. Avoid Non-Steroidal Anti-Inflammatory Drugs (NSAIDs):

NSAIDs are commonly prescribed for the treatment of myopericarditis. However, there is a theoretical concern that they may increase ACE-2 concentrations. Moreover, NSAIDs may also increase the risk of acute kidney injury (AKI). Therefore, we suggest avoiding NSAIDs in any cases with suspected or approved COVID-19.

b. Experimental anti-viral therapy:

Early results from administration of hydroxychloroquine, with or without azithromycin

from France and China in COVID-19 cases with mild manifestations, was promising, but some larger investigations in cases with severe COVID-19 has not revealed any significant clinical efficacy. Similarly, a recent large scale multinational study as well as systematic review did not show any clinical benefit of HCQ. Moreover, the combination of hydroxychloroquine and azithromycin may cause QT prolongation and lifethreatening arrhythmias and should only be suggested with caution and continuous telemetry assessment. In a compassionate use, open-label single-arm investigation of 53 cases with severe COVID-19, remdesivir was correlated with clinical amelioration in 84% of cases. Younger cases (< 70 years], and those needing noninvasive ventilation were more likely to benefit from remdesivir. The FDA has issued

an emergency use authorization for the administration of remdesivir for the management of hospitalized cases with severe COVID-19. While the results of previous studies are limited, for cases who remain severely ill despite supportive care, such treatments may be considered after assessment by infectious disease specialists.

c. Anti-inflammatory therapies:

While corticosteroids are commonly avoided in the treatment of COVID-19, due to the concern for prolonging viral illness, in later phases of inflammation that are frequently correlated with excessive cytokine release causing hemodynamic instability and end-organ damage, corticosteroid prescription may be considered after a multidisciplinary consultation. While the administration of corticosteroids have been beneficial in treating myocarditis from immune

checkpoint inhibitors or giant cell myocarditis, its administration in COVID-19 related myocarditis has been limited to case reports. IL-6 is related to the development of cytokine release syndrome (CRS) and may have a significant role in SARS-CoV-2 related lung and myocardial impairment. Anti-IL-6 antibodies, such as tocilizumab and siltuximab, may play a role in the treatment of cases with COVID-19. While the evidence for their use is limited, ongoing clinical studies will explain its value. Tocilizumab has been suggested to decrease CV impairment and related adverse outcomes in cases with chimeric antigen receptor (CAR) T-cell therapy related CRS. We suggest that for cases with hemodynamic or electrical instability, high cardiac troponin, new-onset LV systolic dysfunction, or in context of high-grade CRS, treatment with an

IL-6 antibody should be noted. A second dose can be used 8-12 hours after the first dose if required.

d. Immunomodulatory therapy:

Intravenous immunoglobulin (IVIg] has been used in a limited number of patients with COVID-19 related myocarditis. The related finding is currently limited to single case reports. Given that IVIg is well-tolerated, its potential role in improving passive immunity and reducing inflammation, it may be considered in severely ill cases, at the early stage of clinical deterioration of cases with COVID-19, especially if anti-IL-6 agent is not available. Convalescent plasma from cases who have recovered from SARS-CoV-2 infection is also being investigated as a potential treatment for severely ill COVID-19 cases. However, its specific usage in

cases with COVID-19 related CV injury and feasibility of the treatment is unknown at this time.

*Cardiac Arrest and Considerations
for Resuscitation*

Cases who are severely ill with COVID-19 are at very high risk of cardiac arrest either with pulseless electrical activity or ventricular arrhythmia. It is important to find cases who are at high-risk for acute decompensation, and aims of care should be assessed early on to avoid any unwarranted resuscitation efforts. Because of the risk of viral aerosolization in the setting of unplanned resuscitation, early treatment with intubation should be used for cases with impending respiratory failure. Cardiopulmonary resuscitation (CPR) in cases with COVID-19

proposes a significant risk of exposure to HCW, given the high amount of viral aerosolization that can be made with chest compressions and airway management. The number of medical staff involved in resuscitation efforts should be reduced for any case with approved or suspected COVID-19. Use of sufficient PPE, including an N95 mask, face shield, gown, and gloves, is critical for all involved cases, even if it delays the start of resuscitation. There is also a risk of resuscitation cart (code cart) contamination during the process, and institutions could consider preparing “resuscitation bags” with all the necessary treatments and instruments for use in cases with either suspected or approved COVID-19. All unused instruments from such bags should be disposed or cleaned afterward. During resuscitation, while attempts to secure

the airway are carried out, oxygen should be used via a non-rebreather mask without humidification. The use of high-flow nasal cannula, and noninvasive ventilation (CPAP, BiPAP) should not be used due to the high risk of aerosolization. Prior to initiating chest compressions, a surgical facemask should be used over the patient’s face. When available, external mechanical compression instruments should be used to minimize the exposure to HCW. Until a definitive airway is achieved, compression-only resuscitation should be carried out given the increased risk of viral aerosolization with bag-mask ventilation. Prolonged resuscitation in cases with poor prognosis should be avoided especially if there is no reversible etiology found.

Personal Protective Equipment

(PPE), Hand Sanitizer, and Cleaning in the Nephrology Department

- Hemodialysis is a life-sustaining treatment that needs cases to interact with health care personnel 3 times weekly. Many dialysis departments report not having enough PPE to meet their daily needs.
- For this reason, dialysis departments should be considered a “front-line” health service during a pandemic, and provided with appropriate allocation of PPE and hand sanitizer that permits them to adhere to the suggestion in this document.
- This includes provision of intervention masks, visors, gowns, and gloves for personnel; provision of intervention masks for dialysis cases; filling of hand sanitizer dispensers routinely; and

exact cleaning of the waiting room and dialysis treatment area several times a day.

Transportation Services for Nephrology Patients

- Without transportation to and from the dialysis department, cases who cannot drive themselves would be admitted to hospital, entailing insufficient use of scarce resources.
- For this reason, drivers of dialysis cases should be considered an essential monitoring during a pandemic.
- Kidney programs should advocate to government to ensure that - access to drivers for dialysis cases with approved COVID-19 is available - drivers of dialysis cases are deemed an essen-

tial service with access to personal protective equipment (PPE), cleaning supplies, ±disposable plastic sheet seat covers - drivers are instructed on how to use PPE and disinfect their vehicles exactly.

Testing for COVID-19 in the Nephrology Department

- Cases receiving hemodialysis are a vulnerable subjects at high risk of acquiring infection due to their frequent interactions with transport drivers and health care professionals, and their requirement to sit in the treatment area with other cases for prolonged periods of time. When testing is carried out, knowledge of findings is needed to plan the safest manner and location of dialysis therapies.

- For these causes, dialysis cases should be prioritized to have expeditious access to assessment for COVID-19.
- This includes - appropriate provision of test kits to carry out nasopharyngeal swabs in the dialysis department; - provision of PPE (see above); - appropriate training of nurses; - expeditious assessment of samples by the laboratory.

3. GUIDELINES FOR THE MANAGEMENT OF AND DERMATOLOGICAL DISEASES DURING THE COVID-19 PANDEMIC

Impact on Dermatology Practice

Potential risk of SARS-CoV-2 infection in dermatologic cases

Commonly, skin is known as a part of the immune system as it performs as a shield against different environmental factors. In this regard, compromising the integrity of this barrier due to lacerations, scratching, needling, pre-exist-

ing infections or diseases of skin, wounds, and burns may increase the invasion by micro-organisms. Therefore, dermatological cases may be at higher risk of SARS-CoV-2 either due the loss of the skin integrity by dermatological causes or the immunosuppressive medications used in the treatment of some diseases. Many cases may take advantage of the quarantine duration to perform some cosmetic interventions considering that the quarantine period is a good opportunity for healing and downtime of the skin; however, it should be considered that fractionated ablative laser resurfacing may cause narrow columns of dermal impairments allowing for potential infection. Moreover, micro-needling particularly home ones may carry high risk of infection and viral autoinoculation.

Impact on dermatology clinics, surgeries and education

Since the initiation of COVID-19 pandemic, many interventions and guidelines have been used to decrease the risk of spread of infection, to flatten the peak of the epidemic curve, and to prepare the different healthcare departments to the expected surge of COVID-19 cases. Based on the Chinese experience, only urgent dermatological surgeries should be carried out, the capacity of the outpatient departments should be decreased, all cases should be assessed at the clinic entrance for fever or history of travel to endemic areas, and all cases should be wearing masks; however, it should be noted sometimes the use of masks for cases may be difficult as most of the high-risk carcinomas occur in face region. Moreover, doctors should

wear mask, goggles, protective suits, head caps and gloves. The majority of the dermatological outpatient consultations are elective, therefore, it is suggested to cancel all non-urgent consultations and only urgent outpatient consultations should be carried out provided that appropriate protective measures are followed. Moreover, the investigators suggested that physicians at risk of COVID-19 should avoid contact with cases. Similarly, hospital admission should only be preserved for cases with severe skin disease not responding to outpatient therapies. In conclusion, COVID-19 has significantly affected the dermatological interventions; however, dermatologists should pay careful attention not to compromise urgent and high-risk patients. One of the medical methods that achieved interest during the current pandemic is the telemedi-

cine that allows the medical specialists to diagnose the cases remotely and suggest appropriate treatment without compromising the social distancing role. There are two types of visits in tele-dermatology either synchronous (which include real time interaction between the cases and the practitioners) or asynchronous (in which the cases information are stored and then assessed later by the practitioners). Considerably, smart phone technology (especially whatsapp software) has been thought to overcome the lack of tele-dermatology instrument in most of health-care departments; however, it may be limited by the poor video and images quality, and medicolegal and privacy problems.

Immunomodulators / Immunosuppressants use during the COVID-19 pandemic

Immunosuppressants are commonly used in the dermatological interventions for the treatment of autoimmune and inflammatory disorders such as psoriasis, atopic dermatitis, systemic lupus erythematosus, dermatomyositis, pemphigus vulgaris and pyoderma gangrenosum. However, their utility during the current pandemic is a matter of debate due to the lack of evidence about COVID-19 risk in immunosuppressed cases. In a recent study, it has been proposed that these immunosuppressant treatments may be related with higher risk of opportunistic infections as they weaken the immune mechanisms. This suggestion was proposed following the previous studies about the increased risk of swine influenza A (H1N1) infection or death in psoriatic cases using immunosuppressant treatments. Therefore, it has been

suggested that the use of biologics should be weighted in endemic regions with the aim to limit and/or decrease the administration time of these treatments and to stop all immunosuppressants in cases suspected for having COVID-19. Similarly, a consensus of experts' opinion from New Zealand and Australia, suggested the cessation of all immunosuppressants (except systemic corticosteroids that should not be suddenly decreased) in COVID-19 approved cases for at least one month, while for cases with influenza like manifestations the dose of immunomodulators should be decreased or stopped for a period of 14 days.

4. GUIDELINES FOR THE MANAGEMENT OF OPHTHALMOLOGICAL DISEASES DURING THE COVID-19 PANDEMIC

Recommended Protocols in Outpatient Clinic

COVID-19 is a highly contagious virus and is commonly transmitted through direct or indirect contact of infected subjects or contaminated surfaces. Respiratory droplets ($>5\mu\text{m}$) made by breathing, talking, sneezing, coughing can reach the mucous membranes (eye, nose and mouth) of subjects who are nearby and can be then en-

tered into the lungs . The distance for droplets transmission has not been definitively demonstrated, a distance of about at least 1 meter (3 feet) has been proposed in previous studies as an area of risk. The possibility of fecal-oral or air-borne ($\leq 5\mu\text{m}$) i.e. aerosol, transmission remains unknown and investigations are still in progress to better find virus transmission process. The World Health Organization (WHO) claims COVID-19 can be transmitted by symptomatic and asymptomatic cases. Case reports have been shown that infectivity during the asymptomatic period, with one case identified to be shedding virus before the initiation of manifestations. There are investigations showing that the coronavirus can be identified in the conjunctival secretions of positive cases with conjunctivitis. Ophthalmologists, along with dentists and ear,

nose and throat specialists, have been received the virus during usual visits . For all these causes and mainly to contain viral spread, non-pharmaceutical treatments, hygiene suggestions and personal protective equipment are crucial.

Patient Triage

Cases in need of an ophthalmic visit should be undergone triage assessments before entering the waiting room. The COVID-19 manifestations are not specific and vary from asymptomatic to fever, cough, dyspnea, myalgia, anosmia or fatigue. Also reported less commonly sputum, headache, hemoptysis and diarrhea. Some of these cases will come to the ophthalmology emergency unit because of conjunctival congestion. For people who enter the hospital, at the

main entrance or in a tent, this process should be performed: temperature assessed, hands disinfected, gloves given to the subject along with a surgical face mask that meets a minimal protection level of 1 according to the American Society for Testing and Materials (ASTM) classification. If the subject is positive for manifestations or has fever, he/she is guided to go home and call the numbers provided so that trained healthcare providers can visit their home to evaluate for COVID-19 positivity.

Instruction in Waiting Area

Instruct seated cases to keep a distance of at least 2 meters from one another with having masks on.

Reduce Health Care Assistant

Staff reorganization is a essential. With the decrease in elective visits and surgery, it is critical to evaluate how many ophthalmologists and non-medical workers are required for outpatient clinical care and then reallocate all the other subjects into different units, following refresher training. We suggest splitting the staff into two segregated teams: the first working with COVID-19+ cases and the second with COVID19-cases, keeping them separated in order to minimize contagion risk. In particular staff that outside of work are in contact with cases at increased risk should be allocated to a lower risk area or provided with measures to avoid contact with those subjects.

Environmental Sanitation

Survival time and conditions of SARS-CoV-2 outside hosts are not yet shown. Based on information from other viruses from the same virus family, it can be supposed it can survive a few days . A recent investigation compared survival of SARS-CoV-2 and SARS-CoV-1 and didn't find statistically significant differences, for both viruses the half-life was less than 3 hours for aerosol, around 3.5 hours on copper, less than 9 hours on cardboard, 13 on steel and 16 on plastic. Therefore, it's important to carry out an appropriate sanitation of the potentially contaminated environment. In healthcare situations, if specific formulations are lacking, the European Centre for Disease Prevention and Control (ECDC) suggestion would be to disinfect with a

neutral soap and sodium hypochlorite at 0.1%, which proved effective. For surfaces that can potentially be damaged by sodium hypochlorite, ethanol can be replaced.

5. GUIDELINES FOR THE MANAGEMENT OF ORAL DISEASES (DENTAL INTERVENTIONS) DURING THE COVID-19 PANDEMIC

Infection Prevention and Control for Dental Treatments

Dental professionals should be prepared to find cases with COVID-19 and to take extra-protective measures needed during clinical practice to prevent the transmission. We will present infection prevention and control measures suggested for these professionals before, during, and after dental procedures implicating a possible drop-

let and aerosol transmission of COVID-19, most important concerns in dental units. The presented suggestions are based on the guidance for healthcare providers, for infection prevention and control during healthcare when COVID-19 is suspected, and the American Dental Association (ADA) interim guidance for minimizing risk of COVID-19 transmission. The ADA suggested three algorithms serving as interim guidance to assist dentists and dental units in making informed decisions concerning patient triage, assessment, and treatment during the COVID-19 pandemic: (1) triaging cases for emergency and urgent dental treatment, (2) evaluation to find COVID-19 infection in emergency and urgent dental cases, to determine whether cases can be treated at the dental units (3) and evaluating patients' risk during the pandemic. The guid-

ance also suggests dental offices and schools to perform some measures for preventing and controlling the infection.

Before the Dental Intervention

At first, dental health care staff must prepare the dental team. They should have received influenza vaccination and professionals presenting influenza-like illness (ILI) (fever, cough, sore throat, muscle pain) should avoid presetting at work. They must self-monitor by evaluating possible respiratory manifestations (cough, shortness of breath, sore throat) and check their temperatures twice a day. Officers must assess the available personal protective equipment supplies. Visits should be scheduled far enough apart to reduce possible contact with other cases

in the waiting room. Cases should be requested not to take companions to their visits, except when they need assistance. Then, medical staff must assess cases for COVID-19 status and triage them for dental treatment, providing early recognition and source control (isolating cases with suspected COVID-19). Patient's interview should preferably be performed by telephone, text and images messaging mobile softwares, or video conference, which can be effective with instant communication and rapid decisions before the appointment. The ADA also suggests dentists to apply a evaluation questionnaire with appropriate questions to track suspected COVID-19 cases. Questions may address whether, in the last 14 days, the cases have been in close contact with subjects diagnosed or under assessment for COVID-19 or has had fever, sore throat, cough, or

shortness of breath. Evaluation should be carried out at visit confirmation, one day before, or when the subject presents for treatment. Public areas and clinical environments must be exactly and strictly disinfected. Thoroughly cleaning environmental surfaces with water and detergent and using high-level disinfectants (such as 3% sodium hypochlorite) are effective and sufficient measures. Medical devices/equipment and utensils, including knobs, chairs and tables, should be cleaned commonly following safe common interventions. Upon patient arrival, the waiting room should allow a social distance of at least 2 meters between cases. Visits must be scheduled by appointment to avoid overcrowding. The service must provide supplies to maintain hygiene/breathing level by offering a medical mask to cases while they wait and asking

them to perform hand hygiene. Specialists should perform another evaluation to approve patients' health condition by measuring their temperature, preferably using a non-contact forehead thermometer or infrared cameras. If the case shows a temperature higher than 37.5°C or signs of respiratory disorders, dental care must be postponed for two weeks and cases must follow the suggestions previously listed. No clinical investigation approved using mouthrinse before dental interventions, nor any specific mouthrinse virucidal efficacy against SARS-CoV-2. Although chlorhexidine is known as the gold standard for oral antiseptics, based on the Chinese Clinical Guidelines for COVID-19 pneumonia diagnosis and treatment reported by the National Health Commission of the People's Republic of China, it may not be effective in killing

SARS-CoV-2. As SARS-CoV-2 may be impaired by oxidation, the ADA proposes using mouthrinse with 1.5% hydrogen peroxide or 0.2% povidone prior to performing interventions, as well as 0.05% to 0.1% cetylpyridinium chloride, which thought to provide more protection against upper respiratory infections.

During the Dental Procedure

During dental interventions, standard precautions include preparing all instruments, conducting hand/respiratory hygiene, using appropriate protective equipments and disposable covers for total protection. In this regard, three-level protective interventions of DHCP are suggested for specific conditions: (1) Primary protection, which consists of using disposable

working cap, disposable surgical mask, working coat, protective goggles or face shield, and disposable latex or nitrile gloves; (2) Secondary protection, using a disposable doctor cap and surgical mask, protective goggles, face shield, and working clothes with disposable isolation clothing, and disposable latex gloves; and (3) Tertiary protection, all secondary-protection level added to disposable N95 masks and impermeable shoe covers. Dental care should be performed fast and as minimally invasive as possible, avoiding aerosol-generating interventions. Dental care environment should use high-efficiency particulate arresting (HEPA) air purifiers to ensure DHCP and cases safety. For biosafety control, all filters must be removed and disposed of in regular intervals. To reduce the risk of cross-infection, dentists should use single-

use instruments, such as disposable air/water syringe tips, disposable handpieces, and plastic wraps for all exposed surfaces. Procedures should limit complementary exams, as intraoral images, and use extraoral radiographs to avoid elevated salivary flow rate and pharyngeal reflex, often caused during intraoral radiography. Whenever possible, interventions should use a rubber dam, to decrease aerosols and microorganisms spread and a four-handed operation, regardless of the rubber dam. Extra high-volume suction instruments should be applied in conjunction with regular suction for aerosols, fomites and saliva. When rubber dam use is unfeasible, manual instruments for removing dental cavities and conducting periodontal therapy are suggested to reduce aerosol synthesis as much as possible. During interventions, cases

should use a protective coat, disposable working cap, and protective goggles. Cases with suspected or approved COVID-19 must be attended only for emergency therapies and instructed to use a disposable surgical mask. Visits should be scheduled far enough apart to minimize possible contact with other cases. Treatment should be preferably carried out in a negative pressure/airborne precaution room.

6. GUIDELINES FOR THE MANAGEMENT OF SURGICAL INTERVENTIONS DURING THE COVID-19 PANDEMIC

Algorithm for Treatment of Cases Required Surgery

The qualification for surgery during pandemic is affected by the patient's clinical status and the hospital's logistical and organizational capabilities. Depending on the local intensity of the pandemic, conditions will vary dynamically. The Spanish Association of Surgeons (AEC/SAS) has prepared recommendations that have been

approved by SAGES (Society of American Gastrointestinal and Endoscopic Surgeons) and EAES (European Association for Endoscopic Surgery), which change local surgical activity depending on the severity and activity of the pandemic. The decision on the qualification of a case to the appropriate risk group should be determined by a multidisciplinary team, which would be responsible for making decisions and setting the priority of therapy for each case. If the case is candidate for surgery during the COVID-19 pandemic, it is crucial to do the following, in respective setting.

Scheduled, Elective Procedure

it is advisable to postpone all elective interventions, in case when postponement of such will

not lead to any harm to patients' health. The decision to postpone the surgery is made by the surgeon responsible for treating the case. This will significantly decrease patient migration in hospitals and decrease the spread of disease between cases and medical personnel. Furthermore, at the moment of highest demand, it will decrease the number of occupied hospital beds and the consumption of personal protective supplies, and secure larger human resources ready for activity.

Treatments for oncological indications should be confirmed by an oncological medical case specialist panel discussion. In the absence of alternative therapy (radiotherapy, chemotherapy) and threatening progression of the tumor, it is thought to be justified to qualify the case for surgery. In cases of e.g. rectal cancer, a

long irradiation can be carried out or, with the 5x5 Gy regimen, it is possible to extend the interval from 6–9 weeks to 8–12 weeks after the scheduled therapy. Due to the important risk of virus spread in aerosols during endoscopic interventions, evaluating and diagnostic assessments should be limited to what is strictly essential. Small interventions like elective polypectomies should be postponed until the pandemic is ended. However, cases with higher-grade tumors, threatening to develop e.g. progressive obstruction, should be qualified for primary surgical intervention. All cases admitted to the department in urgent mode should have a thorough epidemiological screening and an evaluation of the most frequent manifestations (including temperature assessment). Suspected cases should be redirected to specialist

COVID-19 infection hospitals for more treatment. As a part of the primary diagnostics, in order to be qualified for admission, they should perform a CT scan of the thorax without contrast or, if no CT is available, an X-ray scan of the thorax in A-P projection. The diagnostic importance of 3-quadrant lung ultrasound is also high, although the prevalence of this method in Poland is still low. According to the analysis of the population of Chinese cases, subjects with approved COVID-19 had usually normal leukocyte count or insignificant leukopenia, reduced platelet count, with increased CRP level and non-specific D-dimer elevation.

In subjects of emergency and urgent interventions where rapid immune tests or RT-PCR are not possible, it should be considered that every operated case is infected with SARS-CoV-2. Only

cases with a negative epidemiological history and assessed with the RT-PCR test may constitute a lower risk group (early stage of infection, asymptomatic cases). This assumption is based on the rapid growth of new infections and the requirement to protect medical personnel. Operations performed in pandemic regions are included in the higher risk group. Furthermore, the interventions carried out on the respiratory system can be included here elevated amount of aerosol synthesis (airborne transmission). The existence of RNA of the virus has also been approved in the digestive tract. Because of that, endoscopic interventions were also classified as high-risk, similarly to classic and laparoscopic surgeries of the small and large intestine. In case of urgent procedures, a higher perioperative risk should be considered in cases with a posi-

tive epidemiological or symptomatic history (fever, coughing, sore throat). If this does not represent an increased risk, the interventionist should consider whether to postpone the intervention, at least until the RT-PCR test has been carried out. If any delay should cause unacceptable risk to the case, the intervention should be carried out immediately, and a positive SARS-CoV-2 condition assumed. Intubation is one of the most risky phases of surgery, regardless of the SARS-CoV-2 condition. In case of emergency and urgent interventions, it is suggested to perform all interventions in an at least N95 FFP3 half mask and surgical mask, and using direct eye protection (goggles/glasses) with a face-shield. All medical staff are not actively involved in the intubation and extubation intervention should leave the operating room for the duration

thereof. The PPE should also be consumed by the cleaning staff after the intervention . Any case qualified for emergency surgery should be managed as suspected of infection. In the case of CT scan of the abdominal cavity carried out in ER settings – it is advisable to extend the evaluation by including CT scan of the thorax. In patients where non-operative therapy is also possible, conservative treatment should be provided.

Types of Personal Protective Instruments During COVID-19 Pandemic

Personal protective equipment (PPE) is needed for each “close contact”, which includes surgical interventions, as well as other interventions taking place in the operating room, e.g. intubation, regional anesthesia, intravenous access etc. It is

worth stressing that an elevated risk of SARS-CoV-2 infection is also present when conducting endoscopic examinations and interventions, especially in the upper gastrointestinal tract. Due to the high risk of personnel infection, we suggest security interventions corresponding to the third level of protection.

Management of the Surgery Department During the COVID-19 Pandemic

There are no nationwide uniform suggestions for management in hospitals which are neither infectious nor special COVID-19 hospitals. The evidence was developed on the basis of interventions of proven effectiveness from the cited papers that can be effectively implemented in Poland. The department is an integral part of the

hospital and cannot decide independently. It is needed to implement interventions throughout the entire hospital and all units necessary for its surgeries. The purpose of the organizational changes is to maintain the continuity of the department and to ensure the safety of employees and cases. Key actions include the creation and strict adherence to interventions and ensuring continuity of access to protective equipments. All health providers who are not essential in the treatment procedure should stay at home or be requested to work remotely. All cases training should be canceled or, if possible, replaced by on-line classes. Only the minimum necessary number of medical staff should be present during medical clinics and other visits. The instructions of appropriate hand washing, use of anti-septic materials and personal protective equip-

ment shall be exactly assessed. In subjects where individual surgical visit are required, all interventions should be conducted only by those making the final decision on more interventions to avoid the risk of re-visit or inconclusive visits. If the workload of surgical units is decreased, it should be noted to divide the surgical staff into two or three smaller rotating teams, which will have no close contact with each other, which in the subject of infection/ quarantine could enable to maintain more work for cases. The unit is divided into a standard section and an observation sub-department. In the standard section, there are cases with negative CoV-2 test findings and the personnel applications the protective equipments as in the low risk group. In the screening sub-department, cases admitted temporarily in single rooms are administrated and managed

until a CoV-2 test result is achieved. These cases are managed as high-risk cases until a test result is achieved, and medical staff uses protective equipments as in the high-risk group. If the rooms do not have their own bathrooms, cases go out only to the bathroom; there can only be one subject in the hallway and the bathroom. Medical treatments and nursing interventions are planned in a way that reduces the number of entries to the room and the time of staff contact with the patient. In case of a CoV-2(-) result, the case is transferred to the standard department. With a CoV2(+) result, the attending doctor guides the subject to more treatment in a special COVID-19 hospital. Nursing and ward attendant staff of the screening sub-department shall be appointed by the directorate and shall be prepared with full protection for their safety. The

team consisting of one nurse and one ward attendant works for 12–24 hours for all cases in the department, with complete protection during the interventions. The subjects in this team do not work in other parts of their hospital. The consultation and the medical procedure is performed by the senior doctor on duty after changing into protective equipment. Cases use surgical masks when medical staff is present in the room and when going out to the bathroom. The hospital shall establish an internal interventions to disinfect bathrooms during the day and rooms after the CoV-2(+) case leaves them. It is possible to make one observation department per several standard units. The work is organized in such a way as to reduce the maintenance of reports.

7. GUIDELINES FOR THE MANAGEMENT OF ENT DISEASES DURING THE COVID-19 PANDEMIC

Best Practice Advice

Faced with the outbreak of SARS-CoV-2, a suggestion was made in March 2020 to cancel all non-urgent operations or medical ENT interventions where this did not involve a loss of chance for the case. The aim of this cancellation was to considerably elevate critical care capacity, prioritise the reception of cases with COVID-19, prioritize the allocation of personnel and provi-

sion of the equipment essential for their medical or surgical treatment, and contribute to the smooth running of downstream critical care within their establishment or support for establishments mobilized by their territorial hospital groups (GHT) to react to COVID-19. Another aim was to decrease the risks of case and healthcare providers being contaminated within healthcare equipments. These equipments are organized so that they can offer dedicated management routes for COVID-positive cases and have established non-COVID-19 regions of the hospital. In 2020, the healthcare organization at the French Directorate-General for Health reported that it would be relying on process and cooperation between existing facilities or that require to be set up in order to:

- mobilize surgical staff, both in hospitals and

private clinics;

- organize access to fully-equipped operating rooms and post-anesthesia care departments;
- reserve post-surgical or post-anaesthetic beds, and if essential medical beds, but also continuous evaluation, intensive care and critical care beds, follow-up and rehabilitative care or home care spaces, as proper depending on whether the patient's condition is COVID-negative or COVID-positive.

Depending on the local context, treatment interventions adapted to available resources define the methods for performing and returning PCR tests on cases suspected be infected. We suggest continuing to hold multidisciplinary consultation visits for ENT oncology virtually to avoid delays in treating cases and prevent subjects

being exposed to the risk of infection. We suggest that minutes be written after a discussion with other physicians or multidisciplinary ethics committee consultation, should postponements pose complex clinical ethical evaluations. The French National Professional ENT Council intends to answer tests from healthcare teams while helping to organize consultation visits by digital means along with its ethics committee. At this stage where we are living with SARS-Cov-2, every precaution is taken so that cases not infected with the virus are received in the best possible conditions and the risk of contamination is reduced. There must be no withdrawal of necessary care and the ENT physicians should resume contact with the most vulnerable cases to ensure they continue to be assessed and detect any risk of worsening of their illness. The

use of CT-scans can help assess the evolution of pathologies such as tumors or cholesteatomas.

Preoperative Diagnostic Evaluation

It is suggested to check the COVID condition of the case shortly before operation if he has manifestations proposing of this infection or in case of ENT surgeries relating to the airway or its connected cavities, particularly endoscopies and oral, pharyngeal, laryngotracheal, endonasal, otological and otoneurological surgical interventions. Indeed, these procedures are at high risk of contamination since they increase the aerosolisation of SARS-CoV-2. In the current pandemic context, untested cases should be managed as infected, even in the absence of manifestations.

Precautions in the Operating Theatre

We suggest setting up an organization that will coordinate a limited number of health personnel to deal with cases suspected to be infected, both possible and approved, to reduce exposure and use of protection equipment. We recommend wearing protection equipment whenever entering the operating theatre. Health professionals in direct contact with patients should receive local training or a refresher course in techniques for putting on and removing their protection equipment given by the operational hygiene team. Access should be limited to the most experienced physician, with minimal access by health specialists still undergoing training and medical students. All surfaces of the furniture in the operating room should be disinfected using

bleach or using virucidal detergent/disinfectant agents, to reduce virus transmission on people's hands. We suggest that healthcare providers treating cases who are possibly or certainly infected with SARS-Cov-2 take additional "air" and "contact" precautions, as outlined below:

- Using respiratory protection in the form of an FFP2 (CEmarked) or N95 (US FDA-approved) mask, ensuring that it is sealed around the face. This is used for all healthcare personnel before they enter the operating room;
- protecting their uniform with a long-sleeved single-use gown; this gown should be impervious if likely to get wet or dirty during treatment;
- prevention of possible splashing in the eyes by common use of protective goggles;
- using headwear that completely covers the

hair;

- using single-use gloves is limited to conditions where there is contact or risk of contact with blood, biological fluids, mucus or impaired skin;
- disposal of this protection equipment in an infectious medical waste receptacle before leaving the operating room, except for the goggles and mask which should be removed after leaving the operating room. If there is a shortage of FFP2 masks, they do not have to be thrown away rapidly, since they are still effective for up to 8 hours provided they are not removed and then put back on the face.

In addition to the mask and protective goggles, the local operational hygiene staff can provide face shields to protect wearers from droplets and aerosols made by the case. These shields have

the benefit of being able to be removed with minimal risk of touching the face. Both sides should therefore be cleaned commonly and staff should avoid bringing their hands to their face under the visor.

8. GUIDELINES FOR THE MANAGEMENT OF PSYCHIATRIC DISEASES DURING THE COVID-19 PANDEMIC

Expert Recommendations on Managing Patients with Mental Disorders during COVID-19

The State Council of China published a report on “Strengthening the Treatment and Management of Cases with Severe Psychiatric Disorders during the COVID-2019 Outbreak”, to help mental health institutions in preventing hospital-needed infection during the management and

care of cases with severe psychiatric diseases. Due to the risk factors faced by cases with severe psychiatric disorders reported previously as well as the difficulty in maintaining social distancing in most psychiatric centers or psychiatric units of general medical centers in China, the Chinese Society of Psychiatry released "the Expert Recommendations on Management Strategies for Patients with Mental Disorders to Prevent and Control the Outbreak of a Serious Infectious Disease (COVID-19)". The process of establishing a guideline was as follows: a panel of key experts provided the draft, which was sent to all subjects of the expert group, and based on the feedback the final version of the recommendation was established.

General Measures for Psychiatric

Hospitals or Psychiatric Units of General Hospitals

During the COVID-19 epidemic, psychiatric centers should commonly disinfect or clean the hospital surfaces, decrease number of the entrances and exits into the center, and set up temperature evaluation screening at the hospital entrance. To decrease the risk of community transmission within the hospital, psychiatric centers must take necessary interventions to decrease the number of outpatient consultations, set up isolation observation units for newly admitted cases, shorten hospital length of stay, and suspend all family consultations. They must routinely provide training on COVID-19 diagnosis and management for hospital personnel. Particularly, all hospital personnel must strictly

observe the relevant regulations of the local government in terms of the requirement for home isolation or centralized medical evaluation and observation to address any manifestation of development of COVID-19 in the cases.

Measures for Outpatient Departments

If possible, psychiatric outpatient unit of medical centers should be situated away from emergency units, fever clinics, respiratory unit and other sections where there is a high risk of infection. Outpatient centers should be well ventilated, and protective equipment, such as hand sanitizer, paper towel, masks, protective caps, and gloves, should be appropriately supplied. Single entrance into outpatient unit is suggested, and all cases and their guardians

must use face masks and have their temperatures measured on entry. Only one guardian is permitted to accompany each case. Cases and guardians with fever or respiratory manifestations are strictly prevented from entering the outpatient unit. At the screening room, cases with fever and/or other clinical manifestations or related epidemiological history of COVID-19 should be treated according to the relevant local regulations, such as being transferred to a local designated medical facility and fever centers. Cases with severe psychiatric diseases and fever and/or other clinical manifestations or related epidemiological history should be managed by the on-duty psychiatrists with protective equipment in designated isolation areas or ward in the psychiatric center. During the psychiatric visit, the treating psychiatrist should not only

evaluate for psychiatric diseases, but also approve if there is any history of fever, respiratory manifestation and epidemiological history of COVID-19. If any positive history is found, they must record and report to the relevant administrative units as needed and initiate relevant transfer process.

Measures for Inpatient Departments

In a similar way, having a single entrance to the inpatient unit with a need for using mask and temperature evaluation for all cases entering is critical. If possible, isolation departments should be set up with sufficient protective equipment supply in clinics for screening of all newly admitted cases. The admission rate into the inpatient units should be decreased

by strengthening the treatment management in the outpatient units and community mental health managements during the COVID-19 epidemic. For cases who require to be hospitalized due to severe excitement, agitation, impulsive behavior, suicidal behavior or deliberate self-harm, but do not have COVID-19-related epidemiological signs and clinical manifestations, it is suggested that evaluation with body temperature, common blood check-up, chest Computed Tomography or X-ray and other necessary evaluations are conducted, to exclude the possibility of COVID-19. It is recommended that two weeks assessments in isolation units should be mandatory before transferring new cases to the general units. Psychiatric cases with suspected or approved COVID-19 infection must be referred to the local designated medical centers,

while psychiatric centers should also provide visit services to the local designated medical centers. In the treatment of hospitalized cases, the diagnosis and treatment plans should be accelerated, and the length of stay should be reduced as much as possible to decrease the number of cases at any one time. Generally, evaluation and treatment of hospitalized cases should be conducted within the same inpatient unit. Cases should be restricted to enter other units to avoid the risk of cross infection between cases in different units. If certain instrument or treatment facilities are shared between inpatients and outpatients, different time slots should be adopted, and disinfection and cleaning must be strictly performed between visits. All types of leave from hospital and common family consultations should be suspended during the

epidemic. If cases need treatment for physical illnesses, or have other specific to leave or be transferred to another medical center, they should be discharged from the psychiatric clinic. Remote social media and applications could be applied to facilitate communication between cases and their companions, and hospital personnel can facilitate these logistics for hospitalized cases.

9. GUIDELINES FOR THE MANAGEMENT OF PEDIATRIC DISEASES DURING THE COVID-19 PANDEMIC

Recommendations

The recommendations are usable for clinics, polyclinics, and level 1 medical centers. A clinic is known as a clinical establishment providing evaluation, consultation, and prescription to outpatients, including dispensing treatments by a single physician, general practitioner, specialist, or a super-specialist doctor. A polyclinic is similar but guided by more than one doctor.

Organizing The Outpatient Department

1. Skills Training and Education: The first step in managing the Out Patient Department is the education of HCW on Personal Protective Equipment, disease transmission, screening methods, cohorting cases, and newer clinic treatment guidelines.

The physician should be prepared for illness and subsequent quarantine by preparing the personnel to multitask and alternating their functions. In the Indian scenario, with constraints in the availability of skilled personnel, prevention is the key.

2. Tele Consultation: With the legalization of teleconsultations, it is suggested wherever feasible. It helps to find cases who can be treated at

home and those who require hospital care. It reduces case contact and is an effective triaging instrument. The teleconsultation instructions laid down by the government require to be followed.

3. Visits and Case Scheduling: Limit the number of cases per day. Walk-In visits should be discouraged to avoid overcrowding. Patient segregation and triaging to be carried out while scheduling visits.

4. Physical Distancing and Waiting Regions: Medical centers should preferably have no waiting regions. However, when more than one case arrives, their seats should be at least 1 meter apart. Open ventilation is suggested here. In single room Out Patient Department chambers, it would be prudent to call one case at a time; others can wait outside in the open air or their cars.

5. Patient Segregation: It is critical to follow children who are ill from the well-baby consultations. Many medical centers are operated only by the practicing physician. However, it is suggested to have a helper who will guide in triaging, maintaining decorum, and educating cases. Preferably an initial evaluation should be carried out by separation of those suspected of COVID-19 from other cases. These subjects should not spend time in the waiting room and should be observed rapidly. A separate entry, consultation place and exit, if feasible, will assist. As not all medical centers have the equipments stated above, alternate precautions should be performed:

- Telephonic screening and schedule visits for all suspect subjects after routine Out Patient Department

- Exclusive times should be allotted for 'Well baby' & Immunization assessments once or twice a week. This may even boost parents' morale who otherwise would be scared to be visited in clinics for vaccinations.

6. Case Education and Awareness: All cases should follow respiratory hygiene and cough etiquette. Tissues, contactless bins, contactless sanitizers, and wash areas should be provided for patients. Display these recommendations in prominent areas. Case education is also the physician's responsibility, hence putting educative posters, multimedia data at strategic points is effective.

7. One Attendant and Personal Protection: Allow only one parent or guardian enters as a companion with the child. Everybody, including children above two years, should use a mask.

8. Well Ventilated: Follow the ventilation instructions provided in this book.

9. Avoid Fomites: Remove toys, books, and any items that are likely to be shared between cases in the waiting room or visit chambers.

10. Novel Techniques: Innovative techniques have been suggested by different physician and can be used.

- Using transparent physical barriers between the cases and doctors can assist in reducing direct exposure to droplets.
- Virtual detailed video interaction followed by a rapid, focused evaluation of the patient in another chamber reduces the patient contact time.
- Non-Contact Thermal scanners: These are convenient non-contact tools ideally created for mass screening in a pandemic and have wide

interest. However, they lack robust evidence. A recent systematic review revealed reasonable diagnostic accuracy in fever measurement but may vary with patient features, setting, index test, and the reference standard applied. These have an excellent negative predictive value. However, there are more recent investigations doubting its accuracy during evaluation in a pandemic. Therefore, no specific suggestions are available for or against the use of these tools.

10. GUIDELINES FOR THE MANAGEMENT OF GYNECOLOGICAL AND UROLOGIC DIS- EASES DURING THE COVID-19 PANDEMIC

Infection Precautions for Healthcare Personnel

Worldwide precautions and hierarchical precautions, extrapolated from standard aseptic or sterile methods to the COVID-19 situation, should be followed in clinical work. The former refer to a series of interventions to reduce the incidence of nosocomial infections based on the instruction that patients' blood, body fluids, se-

cretions, and incomplete skin and mucous membranes may contain infectious species. Based on worldwide precautions, hierarchical precautions refer to contact precautions, spray precautions, airborne precautions, etc. Health care providers should pay attention to their actions during work and avoid close contact with each other in an unprotected condition to minimize the possibility that one infected staff infects others. Gynecologic worldwide and hierarchical precautions could be performed as follows (based on the instructions of worldwide and hierarchical precautions and local specific interventions):

Primary precautions: working in an outpatient gynecology unit or inpatient department. Healthcare staff should use disposable work caps, medical surgical masks, and work clothes, and disposable latex gloves if essential.

Secondary precautions: any caregiver in contact with cases with COVID19 or subjects under assessment. Healthcare staff should use disposable work caps, goggles or protective evaluations, medical protective masks (N95), protective clothing or disposable impermeable isolation clothing and disposable latex gloves, and disposable shoe covers if essential.

Tertiary precautions: medical colleagues in fever units and isolation departments and personnel conducting gynecologic surgeries, emergency gynecologic interventions, invasive interventions on cases with suspected infection including sputum suction, lower respiratory tract sampling, tracheal intubation and tracheotomy, etc, which may lead to splashing of patients' respiratory secretions and body material. Healthcare staff should use disposable work caps, goggles

or face shields, medical protective masks (N95), protective clothing, disposable latex gloves, and disposable shoe covers.

Infection Precautions for Operating Room

Cases deemed to have a very low risk of COVID-19 infection can be managed for in ordinary operating rooms, and medical personnel should follow primary precautions. Surgery for a case with suspected COVID-19 infection should be carried out in a special operating room with negative air pressure, and the medical personnel should follow tertiary precautions (as stated previously). For any surgery in any operating room where there is concern of the case being infected with COVID-19, the door of the operating

room should be kept closed during the surgery. Negative pressure with respect to the surrounding facilities should be maintained. The number of subjects entering and leaving and remaining in the operating room should be reduced. Equipment and supplies should be brought to the operating room door by specific external staff and retrieved by specific staff inside the operating room. Internal and external staff, instruments, and equipment must not be mixed. Operating rooms should use disposable instruments wherever possible. To prevent the surface of non-disposable and fixed objects in the operating room from being contaminated, disposable plastic films can also be applied to cover the surface of diagnostic equipments and other surfaces. After the surgery, these films should be managed as special contaminated medical waste. When

medical tools or contaminated fabrics require to be sterilized, the operating room should notify disinfection supply areas and laundry rooms that these are COVID-19 contaminated equipments. After performing operations involving a case suspected of having COVID-19, medical personnel should take off the contaminated surgical gowns and then gloves and disinfect the hands when leaving the operating room. Environment and surface disinfection should perform the instructions of cleaning first and then disinfecting. An infected operating room should only be applied after cleaning for 30 minutes, terminal disinfection, and air disinfection. Medical trainees who lack specific education and do not already have substantial surgical experience should not enter in surgery on cases with suspected COVID-19. The risk of a serious error by

an inexperienced trainee could put many health-care providers at risk.

Management of Gynecologic Patients

Outpatient

There should be triage for outpatient cases. Cases suspected of having COVID-19 should go to the fever clinic for more treatment. In principle, suspected subjects, probable individuals, or approved subjects should not be allowed to find medical advice in the outpatient gynecology unit. Avoid having people gathering in the waiting locations. One doctor or provider should treat one case at a time in the consulting area, and the consulting room should be disinfected rapidly after use. During the COVID-19 pandemic, we suggest online or remote visit by tele-

phone as much as practical, to reduce the risk of disease spread by close contact.

Operative patient

In emergency surgery with appropriate time available for evaluation, cases who are clinically stable should be asked the evaluating questions, have their temperature measured, and be assessed for clinical manifestations to remove the possibility of COVID-19. If the possibility of a COVID-19 diagnosis cannot be completely eliminated, cases should go to the fever clinic for more evaluation. If the case is clinically unstable or the patient's condition is life-threatening, an emergency visit with infection control experts may be effective. The decision may be made to treat the case as a suspected subject or even approved case.

Nonoperative inpatient

The triage instructions for a newly admitted case is provided in this section. Suggestions for ward management include the following: First, review the evaluating tests and measure the temperature of cases, visitors, and accompanying cases; any subject with an elective admission or any nonpatient suspected of infection should be prevented entry into the clinic. Second, consulting rules can be changed according to local preference. It is suggested to prohibit consulting, and if visitors cannot be avoided, the number of visitors should be no more than one. Visitors must be evaluated. Third, if a case develops fever that cannot be clarified by the primary disease, a visit with infectious disease physician is suggested. Fourth, if a case is found to have COVID-19, the case should be transferred to a

unit that can provide an airborne infection isolation part.

11. GUIDELINES FOR THE MANAGEMENT OF REHABILITATION INTERVENTIONS DURING THE COVID-19 PANDEMIC

Adequacy of Outpatient Services

Suggestions regarding the appropriateness of out-patient cares: post-acute cares and long-term community rehabilitation cares for cases with and without COVID-19, were assessed. Post-acute cares. AAPMR suggested restricting face-to-face care for high-risk subjects. All outpatient interventions were suspended for those cases with respiratory manifestations, immuno-

compromised cases, older cases, or those in contact with children or older subjects, those who had recently travelled outside their regions or had been in contact with a case who had travelled abroad. For cases receiving outpatient treatment or who did not have an urgent medical status, SIMFER suggested rapid transition to virtual medical visits through remote appointments or telerehabilitation was suggested. Spanish Society of Rehabilitation and Physical Medicine (SERMEF) suggested that first-time outpatient visits and cases with complex pathologies should be prioritized. Regarding rehabilitation in day hospitals, there were no specific suggestions. Moreover, SERMEF suggested evaluating the risk-benefit individually and postponing treatment in cases over 65 years of age, and those with comorbidities, immunosuppression

or cardiorespiratory disorders. However, assistance for cases with pathologies such as acute neurological damage, rehabilitation after recent surgery, acute musculoskeletal rehabilitation with a high risk of sequelae or any pathology derived from COVID-19 infection, was known urgent. In maintaining outpatient cares for some cases with face-to-face rehabilitation requirements, Colombian Association of Physiotherapy (ASCOFI) suggested cases attend rehabilitation guidelines together with only one companion. They must remain in the waiting areas according to established instructions. Moreover, hospitals must schedule agendas to restrict patient encounters, have personnel cleaning contact surfaces routinely, not admit cases without prior appointment, and not allow companions in treatments except for cases who are minors or

with important dependence. Some protocols and webinars, particularly those from SERMEF, suggested guidelines about the reopening of outpatient clinics along with changes in the physical equipments, protective barriers, use of protective equipments in the outpatient condition, such as utilizing a surgical or face covering from home, supervising the patient's handwashing at the entrance and exit of clinic, disinfecting footwear, safety distancing, and temperature assessments at the entrance to the rehabilitation center, reorganization of waiting areas and suggestions regarding how to manage the COVID-19 danger in the outpatient rehabilitation centers, including hydrotherapy units.

Rehabilitation in General Wards

Cases with COVID-19. Latin American Medical Association of Rehabilitation (AMLAR) reported that rehabilitation centers converted their inpatient rehabilitation departments into dedicated COVID-19 recovery departments and explicitly authorized direct transfer of cases from acute care centers to independent rehabilitation departments in regions when were essential.

One of the main suggestions of American Academy of Physical Medicine and Rehabilitation (AAPMR) was for cases without COVID-19 to avoid contact with other subjects in the rehabilitation department. Some associations reported that cases without COVID-19 infection who were admitted to rehabilitation departments could conduct activities without restrictions, but with protection, such as using a surgical mask or face covering from home, with cases

conducting supervised handwashing at the entrance and exit, safe distancing, and temperature checks at the entrance of the rehabilitation department. They suggested focusing on patient education, respiratory treatment, physical function and training, maintaining 1-m social distancing between cases, continually evaluating the vital signs of cases and professionals, and using gyms only for physical treatment. SIMFER also suggested prioritizing the admission to rehabilitation units of cases in acute hospitals or ICU, and increasing the admission capacity of rehabilitation capacities, to support early discharge from the acute care departments. Other organizations planned the relevance of admitting cases with rehabilitation requires to rehabilitation departments and hospitals, and reconsidered intensive treatments lasting 3–

4 h during the public health emergency. CPA willingly offered the availability of specialists to support respiratory treatment, preparation for discharge and early rehabilitation of cases with neurological disorders and post-traumatic impairments. Other organizations suggested resources and interventions regarding physiotherapists in hospital settings to continue to work with appropriate protection equipments. Furthermore, AAPMR exposed that necessary care, through provision of a comprehensive, early, effective, safe and individualized mechanism, should be guaranteed to hospitalized cases with disabilities in the medium- or long-term stage. Moreover, evaluation, treatment and telematic support from rehabilitation services are proposed.

Acute and Intensive Care Unit Rehabilitation

Cases with acute and severe COVID-19. Scientific and professional rehabilitation associations suggested ensuring rehabilitation for cases recovering from COVID-19, in order to reduce complications of acute conditions and comorbidities throughout the entire pandemic period. The transfer of cases with disabilities to acute care centers and ICUs if the health situation or a COVID-19 infection needs it was also reported as a priority. Different organizations, such as World Confederation for Physical Therapy (WCPT), Association of Chartered Physiotherapists in Respiratory Care (ACPRC), Canadian Physiotherapy Association (CPA), Chartered So-

ciety of Physiotherapy (CSP) and others, published manuals, suggestions, and recommendations for the care of cases with COVID-19 infection. They proposed that critical cases should be cared for by a multidisciplinary team, which includes different rehabilitation specialists. They also offered suggestions for early mobilization and respiratory rehabilitation to promote spontaneous breathing and functional improvement after cases had overcome the critical phase. One recommendation from the CSP focused on the acute pulmonary rehabilitation of cases with COVID-19 in ICUs. Prevention interventions, therapeutic interventions and suggestions were recommended for cases with COVID-19 in the acute pulmonary rehabilitation phase, and CSP have committed to developing protocols to describe the rehabilitation of cases

with COVID-19, from the ICU to the community setting. The protocol "Physiotherapy treatment for COVID-19 in the acute hospital setting" included suggestions for physiotherapy workforce planning treatment for COVID-19 in the acute hospital setting, and a evaluating instrument for determining the need for physiotherapy. The Chinese Society of Rehabilitation Medicine (CSRM) suggested evaluating cases from admission to ICU, determining severe symptoms, and allowing immediate implementation of supportive therapies. The safety criteria for early mobilization and the prescription of functions in cases with COVID-19 in the ICU and physiotherapeutic interventions for cases with suspected or approved diagnosis of COVID-19 in the ICU were presented.

The article "Early Rehabilitation in COVID-19,

best practice suggestions for the early rehabilitation of COVID-19 cases” included conceptual recommendations for early rehabilitation of cases with COVID-19, such as a checklist of logistical and organizational measures, aspects of infectivity and personal protective equipment (PPE), adjustments to the patients’ surroundings, interprofessional teamwork and co-therapy, respiratory treatment, mobilization, activating care, training in functions of daily living, training intensity, and psychosocial treatment.

Cases without COVID19 infection who needed ICU should be treated based on the guidelines that each center had developed for ICU rehabilitation. Italian Society of Physical Medicine and Rehabilitation (SIMFER) suggested preventing complications from immobilization or invasive mechanical ventilation. Clinical stability must

be provided, and rehabilitation interventions requested. Promoting early discharge and facilitating access to home and community rehabilitation is suggested whenever possible, especially for cases with appropriate functionality.

12. GUIDELINES FOR THE MANAGEMENT OF IMAGING AND RADIOLOGICAL INTERVENTIONS DURING THE COVID-19 PANDEMIC

Preparedness of Radiology Department

All health providers, cases, and visitors of the Radiology Department should be requested to practice appropriate hand hygiene, which includes exact hand washing with soap for at least 20 seconds or hand sanitizer that contains 75% alcohol. Surgical masks should be used by staff, cases, and visitors depending on local availabil-

ity. The points of entry into the institution and Radiology Department should be limited for effective screening of cases, visitors, and employees, although employees should be evaluated separately. History of travel, occupation, contact, and cluster (TOCC) can be received before the visit or at the entry point. Body temperatures should be assessed. Those suffering from manifestations of acute respiratory illness or other recently reported manifestations of COVID-19, such as lack of appetite, vomiting, diarrhea, and/or anosmia, should be administered to selfquarantine and/or directed to appropriate testing sites for SARSCoV-2 infection based on local and institutional recommendations. Staff members with recent travel, contact with approved SARS-CoV-2 infected cases, or contact with those having related manifest-

ations should be instructed to self-isolate and contact employee health or their primary care doctor for guidance. Health care providers should not return to work until exclusion of potential infection or fulfillment of isolation duration. Different social distancing interventions should be used to prevent clustering and ensure a distance of least 1.8 m or 6 feet between all subjects to decrease risk of infection. For busy radiology units, depending on the local rate of COVID-19, imaging examination visits may require to be decreased or scheduled with longer time intervals, and accompanying visitors should be restricted to avoid crowding of the waiting areas. If possible, administrative health providers should be requested and provided with equipments, such as laptop computers and virtual private network connection, to perform

their duties from home. If home workstations are available, radiologists, especially those with risk factors for poor outcome if affected by COVID-19, should be provided to perform their duties remotely to decrease potential exposure. Health care providers whose work needs in-person presence should have staggered shifts and work in fixed, small teams, and prevented any close contacts with cases outside of the assigned team. In the unfortunate event that 1 team member is suspected or approved to have COVID-19, only a relatively small number of team members that he or she has had contact with would require to be isolated. Members of other teams, without exposure, can continue to provide coverage of needed duties. For units that provide services at multiple locations, health care providers should remain at one location to

the extent possible and prevent rotation to decrease the potential of cross-infection. For health care providers who work onsite, cleaning of the workstation, keyboards, mice, and other fomites should be carried out at the initiation and end of each shift, and sharing by different health care members should be reduced. Health care providers should prevent congregating during coffee or meal breaks. All in-person visits in the Radiology Department and institution should be terminated if possible. If a visit seems necessary, limit the number of in-person subjects to 6, at most. Different web-based social media and teleconference applications can be applied for education, visit, interdisciplinary consultation, or general communication.

Performance of CT for Suspected or

Approved Subjects of COVID-19

CT of the chest is often needed by referring doctors for evaluation of cases with respiratory manifestations to narrow the differential diagnosis, triage cases for admission, and to guide treatment interventions. Many of these cases may have suspected or approved COVID-19 pneumonia. Coordination with clinical services including emergency medicine, infectious disease, critical care medicine, pulmonary medicine, and, etc., to create the optimal institutional algorithm for assessment to allow proper application of CT and notification of the radiology department before the arrival of cases with suspected or approved SARS-CoV-2 infection is essential.

Creating a Safe Environment

The delivery of the CT services should be carried out in a manner that increases safety for the radiology health care providers and the work environment. The waiting regions and the passage ways between the inpatient department and the CT room should be separate from the flow of traffic of other cases. Common communication between the referring service, radiology scheduling staff, and CT technologists is suggested to improve efficiency and reduce patient time in the CT room and exposure to radiology health care providers.

General protection

Using work clothes, disposable medical masks,

work caps, and gloves.

Primary Level of Protection

It is appropriate for pre-evaluation and triage, fever clinic, and infectious diseases clinic. Using disposable work caps, disposable medical masks, work clothes, isolation gowns, and disposable latex gloves, and appropriately performing hand hygiene.

Secondary Level of Protection

It is appropriate for health care providers who has close contact with suspected or approved cases. Using disposable work caps, protective goggles or face shields (anti-fog type), medical protective masks, protective clothing or isola-

tion gowns, disposable latex gloves, and disposable shoe covers, and completely conducting hand hygiene.

Third Level of Protection

It is appropriate for aerosol-producing interventions conducted for suspected or approved cases, such as sputum aspirating, respiratory sampling, tracheal intubation, and tracheotomy, which may lead to spraying or splashing of respiratory secretions and substances of the body. Wearing disposable work caps, medical protective masks, protective face shields, medical protective clothing, disposable latex gloves, and disposable shoe covers, and completely conducting hand hygiene.

13. GUIDELINES FOR THE MANAGEMENT OF ORTHOPEDIC TREATMENTS DURING THE COVID-19 PANDEMIC

On-site First Aid

In principle, all cases with fractures which occurred in pandemic regions should be managed as suspected COVID-19 subjects. The ambulance needs sufficient protective instruments and rescue equipment. All medical staff should be expert about the manifestations of COVID19 and should have received professional specialty in level-three personal protective equipment.

Moreover, all should be trained well in using and taking of a disposable hat, disposable protective clothing, long shoe cover, N95/FFP2 mask, goggles, double-layer gloves and protective face screen. Personal protective equipment is critical to reduce the chance of contact with body fluids of the wounded. Before arriving at the scene, all the healthcare providers and drivers involved in the pre-hospital emergency should take level-two personal protective equipment. For cases with contact with COVID-19 cases or having the manifestations of fever and/or respiratory manifestations, the pre-hospital emergency healthcare providers and drivers in the non-pandemic regions should take level-two personal protective equipment in advance.

Transportation of the Trauma

Case to Hospital

In principle, all the injured cases should be transported to the nearest clinic with appropriate isolation equipments, appropriate levels of personal protective equipment and the ability to diagnose and treat COVID19 cases. The ambulance is exposed to high level of aerosol for a long time in a relatively closed environment, and must be cleaned and disinfected completely. Negative pressure ambulances are better than conventional ones. Only cases with excluded infection of COVID-19 can be sent to the general emergency unit, the rest should be managed in the COVID-19-designated hospital for receiving sufficient treatment.

Protection of Healthcare Workers

in the Emergency Room (ER)

All health care providers who receive cases with suspected or approved COVID-19 require at least level-two PPE in the emergency room (ER). If the case is unconscious, or his/her companions cannot describe the epidemiological history, the suspected subjects shall be managed as COVID-19. During pandemic, all cases should be managed as suspected subjects of COVID-19. Appropriate PPE and disinfection of medical instrument is paramount.

Indications for Emergency Surgery

The criteria for emergency surgery is “threat to the patient’s life if surgery or intervention is not carried out, threat of permanent impairment of an extremity or organ system, risk

of metastasis or progression of staging, risk of rapidly worsening to severe manifestations”. The main reasons for emergency surgery at our center are: trauma seriously endangering life or limb, such the criteria for emergency surgery is “threat to the life of a case if surgery or intervention is not carried out, threat of permanent impairment of an extremity or organ system, risk of metastasis or progression of staging, risk of rapidly worsening to severe manifestations”. The main indications for emergency interventions at our center are: trauma seriously endangering life or limb, such as fracture with hemorrhagic shock, suspected large blood vessel trauma and fracture with critical organ impairments; Gustilo II–III open fractures, closed fracture with compartment syndrome, fracture with severe infection; unstable pelvic fractures

and failure of closed reduction in dislocation of the hip joint with/without acetabular injury; unstable spine fracture with spinal cord trauma, or progressive aggravation of neurological impairments with/without Spinal Cord Compartment Syndrome or Spinal Cord Intramedullary Hypertension (SCIImH). Cases with mild to moderate COVID-19 are treated as above, whereas patients with severe COVID-19 are more possible to be managed non-operatively. In other words, severe COVID-19 is a relative contraindication for emergency orthopedic surgery. Cases with critical COVID-19 or those who are intolerant to surgery or anesthesia are an definite contraindication.

Emergency Pre-operative Plan

According to condition of each case, trauma, injury type, stability, neurological activity, medical instruments and technical conditions, the aim of surgery should be completed in a single approach or minimally invasive surgery as far as possible. The team should take interventions to decrease the effect of time, trauma, hemorrhage and anesthesia on cases with COVID-19. Disposable surgical equipments should be used where possible and non-operative therapy should be strongly noted.

REFERENCES

1. Srivastava AK and Garg D. Neurology and COVID-19: Time to Burn the Candle at Both Ends. *Ann Indian Acad Neurol* 2020; 23: 584-585. 20201107. DOI: 10.4103/aian.AIAN_652_20.
2. Aggarwal A, Singhal T and Bhatt M. Neurology and COVID-19: Acting now. Preparing for Future. *Ann Indian Acad Neurol* 2020; 23: 433-440. 20200814. DOI: 10.4103/aian.AIAN_513_20.
3. Josephson SA and Kamel H. Neurology and COVID-19. *Jama* 2020; 324: 1139-1140. DOI: 10.1001/jama.2020.14254.

4. Romagnolo A, Imbalzano G, Artusi CA, et al. Neurological comorbidities and COVID-19-related case fatality: A cohort study. *J Neurol Sci* 2021; 428: 117610. 20210805. DOI: 10.1016/j.jns.2021.117610.
5. Ng JH, Chaudhuri KR and Tan EK. Functional Neurological Disorders and COVID-19 Vaccination. *Ann Neurol* 2021; 90: 328. 20210716. DOI: 10.1002/ana.26160.
6. Rasile M, Lauranzano E, Mirabella F, et al. Neurological consequences of neurovascular unit and brain vasculature damages: potential risks for pregnancy infections and COVID-19-babies. *Febs j* 2021 20210517. DOI: 10.1111/febs.16020.
7. Veronese N, Smith L, Barbagallo M, et al. Neurological diseases and COVID-19: prospect-

ive analyses using the UK Biobank. *Acta Neurol Belg* 2021; 121: 1295-1303. 20210505. DOI: 10.1007/s13760-021-01693-3.

8. Anwar MM. Immunotherapies and COVID-19 related Neurological manifestations: A Comprehensive Review Article. *J Immunoassay Immunochem* 2020; 41: 960-975. 20210103. DOI: 10.1080/15321819.2020.1865400.

9. Meshkat S, Salimi A, Joshaghanian A, et al. Chronic neurological diseases and COVID-19: Associations and considerations. *Transl Neurosci* 2020; 11: 294-301. 20200909. DOI: 10.1515/tnsci-2020-0141.

10. Kubota T and Kuroda N. Exacerbation of neurological symptoms and COVID-19 severity in patients with preexisting neuro-

logical disorders and COVID-19: A systematic review. *Clin Neurol Neurosurg* 2021; 200: 106349. 20201101. DOI: 10.1016/j.clineuro.2020.106349.

11. Miller BL. Science Denial and COVID Conspiracy Theories: Potential Neurological Mechanisms and Possible Responses. *Jama* 2020; 324: 2255-2256. DOI: 10.1001/jama.2020.21332.

12. Alshebri MS, Alshouimi RA, Alhumidi HA, et al. Neurological Complications of SARS-CoV, MERS-CoV, and COVID-19. *SN Compr Clin Med* 2020: 1-11. 20201016. DOI: 10.1007/s42399-020-00589-2.

13. Di Carlo DT, Montemurro N, Petrella G, et al. Exploring the clinical association between neurological symptoms and COVID-19 pandemic outbreak: a systematic review of cur-

rent literature. *J Neurol* 2021; 268: 1561-1569. 20200801. DOI: 10.1007/s00415-020-09978-y.

14. Pinna P, Grewal P, Hall JP, et al. Neurological manifestations and COVID-19: Experiences from a tertiary care center at the Frontline. *J Neurol Sci* 2020; 415: 116969. 20200603. DOI: 10.1016/j.jns.2020.116969.

15. Carod-Artal FJ. Neurological complications of coronavirus and COVID-19. *Rev Neurol* 2020; 70: 311-322. DOI: 10.33588/rn.7009.2020179.

16. Capone F, Cipriani A, Molinari L, et al. Cardiac injury and COVID-19 associated coagulopathy in patients with acute SARS-CoV-2 pneumonia: A rotational thromboelastometry study. *Adv Med Sci* 2021; 67: 39-44. 20211211. DOI: 10.1016/j.advms.2021.12.001.

17. Santos BMD and Sacilotto L. Cardiac Arrhythmias and COVID-19: Side-By-Side in the Pandemic. *Arq Bras Cardiol* 2021; 117: 1016-1017. DOI: 10.36660/abc.20210810.

18. Baldi E, Primi R, Bendotti S, et al. Relationship between out-of-hospital cardiac arrests and COVID-19 during the first and second pandemic wave. The importance of monitoring COVID-19 incidence. *PLoS One* 2021; 16: e0260275. 20211119. DOI: 10.1371/journal.pone.0260275.

19. Mól N, Olchawa-Czech A, Szymońska I, et al. Risk factors of cardiac insufficiency in children with multisystem inflammatory syndrome and COVID-19: A prospective cohort study. *Kardiologia Pol* 2021; 79: 1365-1367. 20211027. DOI: 10.33963/KPa.2021.0144.

20. Rezq S, Huffman AM, Basnet J, et al. Cardiac and Renal SARS-CoV-2 Viral Entry Protein Regulation by Androgens and Diet: Implications for Polycystic Ovary Syndrome and COVID-19. *Int J Mol Sci* 2021; 22 20210909. DOI: 10.3390/ijms22189746.
21. Melhaoui I, Oujidi Y, El Heddad IA, et al. Management of post cardiac transplantation immunosuppression and COVID-19: A case report. *Ann Med Surg (Lond)* 2021; 71: 102875. 20210921. DOI: 10.1016/j.amsu.2021.102875.
22. An W, Kang JS, Wang Q, et al. Cardiac biomarkers and COVID-19: A systematic review and meta-analysis. *J Infect Public Health* 2021; 14: 1191-1197. 20210729. DOI: 10.1016/j.jiph.2021.07.016.
23. Martens T. Urgent Cardiac Surgery and

- COVID-19 Infection: Uncharted Territory: Reply. *Ann Thorac Surg* 2021; 111: 1735. 20201009. DOI: 10.1016/j.athoracsur.2020.09.007.
24. Descatha A, Fadel M, Morin F, et al. Singularities of AED implementation in occupational setting and COVID-19 pandemic: In response to "Use and Coverage of Automated External Defibrillators According to Location in Out-of-Hospital Cardiac Arrest". *Resuscitation* 2021; 163: 200-201. 20210408. DOI: 10.1016/j.resuscitation.2021.03.029.
25. Wiwanitkti V. Sudden Cardiac Death, Haemodialysis, Hydroxychloroquine, and COVID-19. *Blood Purif* 2022; 51: 96. 20210316. DOI: 10.1159/000515010.
26. García de Guadiana-Romualdo L, Morell-García D, Rodríguez-Fraga O, et al. Cardiac tro-

ponin and COVID-19 severity: Results from BIO-COVID study. *Eur J Clin Invest* 2021; 51: e13532. 20210315. DOI: 10.1111/eci.13532.

27. Colombier S, Mahendiran T, Niclauss L, et al. Cardiac arrest and COVID-19: inflammation, angiotensin-converting enzyme 2, and the destabilization of non-significant coronary artery disease-a case report. *Eur Heart J Case Rep* 2021; 5: ytaa475. 20201212. DOI: 10.1093/ehjcr/ytaa475.

28. Khan AH, Hussain M and Malik MK. ECG Images dataset of Cardiac and COVID-19 Patients. *Data Brief* 2021; 34: 106762. 20210118. DOI: 10.1016/j.dib.2021.106762.

29. Ziyaeifard M and Ziyaeifard P. Cardiac anesthesia and COVID-19 outbreak: What should we know? *J Res Med Sci* 2020; 25: 89. 20200930.

DOI: 10.4103/jrms.JRMS_336_20.

30. Al Abbasi B, Torres P, Ramos-Tuarez F, et al. Cardiac Troponin-I and COVID-19: A Prognostic Tool for In-Hospital Mortality. *Cardiol Res* 2020; 11: 398-404. 20201023. DOI: 10.14740/cr1159.

31. Siniorakis E, Arvanitakis S and Elkouris M. Cardiac glycosides and COVID-19: would it be a promising therapeutic approach? *An Acad Bras Cienc* 2020; 92: e20201080. 20201028. DOI: 10.1590/0001-3765202020201080.

32. Dixit NM, Truong KP, Rabadia SV, et al. Sudden Cardiac Arrest in a Patient With Myxedema Coma and COVID-19. *J Endocr Soc* 2020; 4: bvaa130. 20200828. DOI: 10.1210/jendso/bvaa130.

33. García-Cruz E, Manzur-Sandoval D, Laz-

cano-Díaz EA, et al. Cardiac Tamponade in a Patient With Myocardial Infarction and COVID-19: Electron Microscopy. *JACC Case Rep* 2020; 2: 2021-2023. 20200804. DOI: 10.1016/j.jaccas.2020.07.042.

34. Zou F, Qian Z, Wang Y, et al. Cardiac Injury and COVID-19: A Systematic Review and Meta-analysis. *CJC Open* 2020; 2: 386-394. 20200623. DOI: 10.1016/j.cjco.2020.06.010.

35. Peters RJG. Cardiac rehabilitation and telemedicine (and COVID-19). *Neth Heart J* 2020; 28: 441-442. DOI: 10.1007/s12471-020-01473-3.

36. Hussain A. Cardiac surgery and COVID-19: Response to the letter to the editor. *J Card Surg* 2020; 35: 2121. 20200711. DOI: 10.1111/jocs.14825.

37. Wiwanitkit V. Cardiac surgery and COVID-19. *J Card Surg* 2020; 35: 2120. 20200711. DOI: 10.1111/jocs.14826.

38. Feldman C. Cardiac complications in community-acquired pneumonia and COVID-19. *Afr J Thorac Crit Care Med* 2020; 26 20200514. DOI: 10.7196/AJTCCM.2020.v26i2.077.

39. Toapanta N, Torres IB, Sellarés J, et al. Kidney transplantation and COVID-19 renal and patient prognosis. *Clin Kidney J* 2021; 14: i21-i29. 20210326. DOI: 10.1093/ckj/sfab030.

40. Kundal S, Emeasoba EU, Harris C, et al. Aortic thrombosis and renal infarction in a young female with patent foramen ovale and COVID-19 antibody. *Clin Case Rep* 2020; 9: 345-349. 20201202. DOI: 10.1002/ccr3.3527.

41. Hevia V, Linares-Espinós E, Alonso-Gordoa T, et al. Renal cell carcinoma and COVID-19 pandemic: Management strategies adapted to current practice. Arch Esp Urol 2020; 73: 360-366.
42. Ged Y, Markowski MC and Pierorazio PM. Advanced renal cell carcinoma and COVID-19 - a personal perspective. Nat Rev Urol 2020; 17: 425-427. DOI: 10.1038/s41585-020-0345-5.
43. Freeman EE, Sun Q, McMahon DE, et al. Skin reactions to COVID-19 vaccines: An American Academy of Dermatology/International League of Dermatological Societies registry update on reaction location and COVID vaccine type. J Am Acad Dermatol 2021 20211117. DOI: 10.1016/j.jaad.2021.11.016.
44. Prasad S, Bassett IV and Freeman EE.

- Dermatology on the global stage: The role of dermatologists in international health advocacy and COVID-19 research. Int J Womens Dermatol 2021; 7: 653-659. 20211023. DOI: 10.1016/j.ijwd.2021.10.003.
45. Minto D, Chatterjee M, Podder I, et al. Clinical Dermatology and COVID-19 Pandemic: Narrative Review. Indian J Dermatol 2021; 66: 246-255. DOI: 10.4103/ijd.ijd_463_21.
46. Mathachan SR, Sardana K and Khurana A. Current Use of Ivermectin in Dermatology, Tropical Medicine, and COVID-19: An Update on Pharmacology, Uses, Proven and Varied Proposed Mechanistic Action. Indian Dermatol Online J 2021; 12: 500-514. 20210714. DOI: 10.4103/idoj.idoj_298_21.
47. Le Cleach L. Dermatology and COVID-19:

Much knowledge to date but still a lot to discover. *Ann Dermatol Venereol* 2021; 148: 69-70. 20210312. DOI: 10.1016/j.annder.2021.03.001.

48. Shinkai K and Bruckner AL. *Dermatology and COVID-19*. *Jama* 2020; 324: 1133-1134. DOI: 10.1001/jama.2020.15276.

49. Viviani F, Ferrari T, Mussi M, et al. *Dermatology residents and COVID-19: life behind the frontlines*. *Clin Exp Dermatol* 2021; 46: 169-170. 20200826. DOI: 10.1111/ced.14365.

50. Radke N, Ruamviboonsuk P, Tham CCY, et al. *Ophthalmology and COVID-19: Long-term Surveillance Needed*. *Asia Pac J Ophthalmol (Phila)* 2021; 10: 519-520. DOI: 10.1097/apo.0000000000000449.

51. Leng T, Gallivan MD, Kras A, et al. *Ophthalmology and COVID-19: The Impact of*

the Pandemic on Patient Care and Outcomes: An IRIS® Registry Study. *Ophthalmology* 2021; 128: 1782-1784. 20210616. DOI: 10.1016/j.opht.2021.06.011.

52. Bressler NM. *Ophthalmology and COVID-19*. *Jama* 2020; 324: 1143-1144. DOI: 10.1001/jama.2020.17595.

53. Hoenig LJ. *The eye and COVID-19 pandemic*. *Clin Dermatol* 2020; 38: 506. 20200327. DOI: 10.1016/j.clindermatol.2020.03.013.

54. Chu DK, Akl EA, Duda S, et al. *Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis*. *Lancet* 2020; 395: 1973-1987. 20200601. DOI: 10.1016/s0140-6736(20)31142-9.

55. Mungmungpantipantip R and Wiwanitkit V. Ocular manifestation, eye protection, and COVID-19. *Graefes Arch Clin Exp Ophthalmol* 2020; 258: 1339. 20200330. DOI: 10.1007/s00417-020-04662-3.
56. Thompson W. Urgent Dental Care and COVID-19. *Prim Dent J* 2021; 10: 2-3. DOI: 10.1177/20501684211033389.
57. Chowdhry A, Kapoor P, Kharbanda OP, et al. Saliva and COVID 19: Current dental perspective. *J Oral Maxillofac Pathol* 2021; 25: 18-21. 20210514. DOI: 10.4103/jomfp.jomfp_63_21.
58. Plaza-Ruiz SP, Barbosa-Liz DM and Agudelo-Suárez AA. Ventilation and air-conditioning systems in dental clinics and COVID-19: How much do we know? *J Clin Exp Dent* 2021; 13: e692-e700. 20210701. DOI: 10.4317/

- jced.58119.
59. Farshidfar N, Jafarpour D, Hamedani S, et al. Proposal for Tier-Based Resumption of Dental Practice Determined by COVID-19 Rate, Testing and COVID-19 Vaccination: A Narrative Perspective. *J Clin Med* 2021; 10 20210514. DOI: 10.3390/jcm10102116.
60. D'Agostino S, D'Agostino L and Dolci M. Protection Measures, Dental Education, and Covid-19 Spread: A Brief Narrative Review. *J Int Soc Prev Community Dent* 2021; 11: 1-5. 20210130. DOI: 10.4103/jispcd.JISPCD_325_20.
61. Aragão MGB, Gomes FIF, Pinho Maia Paixão-de-Melo L, et al. Brazilian dental students and COVID-19: A survey on knowledge and perceptions. *Eur J Dent Educ* 2022; 26: 93-105. 20210214. DOI: 10.1111/eje.12676.

62. Gambarini G, Di Nardo D, Obino FV, et al. Academic Dental Activities and COVID-19 Pandemic. *J Contemp Dent Pract* 2020; 21: 598. 20200601.
63. Brkić H. Dental medicine and COVID-19 pandemic. *Acta Stomatol Croat* 2020; 54: 118-120.
64. Epstein JB, Chow K and Mathias R. Dental procedure aerosols and COVID-19. *Lancet Infect Dis* 2021; 21: e73. 20200810. DOI: 10.1016/s1473-3099(20)30636-8.
65. Martelli JÚnior H, Machado RA, Swerts MSO, et al. Dental research and COVID-19: The beauty of science and its current and future challenges. *Braz Oral Res* 2020; 34: e088. 20200715. DOI: 10.1590/1807-3107bor-2020.vol34.0088.
66. Wiwanitkit V. Dental care provision in

- patients with learning disabilities and COVID-19 pandemic. *Spec Care Dentist* 2020; 40: 528. 20200716. DOI: 10.1111/scd.12496.
67. Mascitti M and Campisi G. Dental Public Health Landscape: Challenges, Technological Innovation and Opportunities in the 21st Century and COVID-19 Pandemic. *Int J Environ Res Public Health* 2020; 17 20200521. DOI: 10.3390/ijerph17103636.
68. Nuñez-Gamez JA, Medina-Bravo PA, Piñeros-López NF, et al. Global outcomes, surgical teams and COVID-19 pandemic: Will the same objectives of global surgery persist? *Ann Med Surg (Lond)* 2021; 71: 103002. 20211030. DOI: 10.1016/j.amsu.2021.103002.
69. Moradpour G, Amini M, Moeinvaziri N, et al. Bariatric Surgery and COVID-19: What

We Have Learned from the Pandemic in Iran: a Retrospective Observational Cohort Study. *Obes Surg* 2022; 32: 18-25. 20211030. DOI: 10.1007/s11695-021-05761-8.

70. Blanchard C, Perennec T, Smati S, et al. History of bariatric surgery and COVID 19 outcomes in patients with type 2 diabetes: results from the CORONADO study. *Obesity (Silver Spring)* 2021 20210929. DOI: 10.1002/oby.23314.

71. Cioffi U, Ciulla MM, De Simone M, et al. Editorial: Surgery and COVID-19: Which Strategies to Apply in Oncologic Patients. *Front Surg* 2021; 8: 718751. 20210722. DOI: 10.3389/fsurg.2021.718751.

72. Prasad NK, Englum BR, Turner DJ, et al. A Nation-Wide Review of Elective Sur-

gery and COVID-Surge Capacity. *J Surg Res* 2021; 267: 211-216. 20210619. DOI: 10.1016/j.jss.2021.05.028.

73. O'Rielly C, Ng-Kamstra J, Kania-Richmond A, et al. Surgery and COVID-19: a rapid scoping review of the impact of the first wave of COVID-19 on surgical services. *BMJ Open* 2021; 11: e043966. 20210615. DOI: 10.1136/bmjopen-2020-043966.

74. Wang R, Zhong R, Liang H, et al. Thoracic surgery and COVID-19: changes and managements during the pandemic. *J Thorac Dis* 2021; 13: 1507-1516. DOI: 10.21037/jtd-20-2883.

75. Santa Mina D, Sellers D, Au D, et al. A Pragmatic Non-Randomized Trial of Prehabilitation Prior to Cancer Surgery: Study Protocol and COVID-19-Related Adaptations. *Front Oncol*

2021; 11: 629207. 20210310. DOI: 10.3389/fonc.2021.629207.

76. Sterkers A, Blanchet MC, Genser L, et al. Obesity surgery and COVID-19 pandemic: What is the suitable attitude to adopt? J Visc Surg 2021; 158: 1-3. 20201205. DOI: 10.1016/j.jvisc-surg.2020.12.002.

77. Sikachi RR and Anca D. Anesthetic Considerations in a Patient With LVAD and COVID-19 Undergoing Video-Assisted Thoracic Surgery. J Cardiothorac Vasc Anesth 2021; 35: 3035-3038. 20201217. DOI: 10.1053/j.jvca.2020.12.019.

78. Turner AM, Albolino S and Morabito A. Paediatric surgery and COVID-19: urgent lessons to be learned. Int J Qual Health Care 2021; 33. DOI: 10.1093/intqhc/mzaa149.

79. Colzani G, Lavorato A, Vincitorio F, et al. Surgery and CoVid-19 pandemic's effects on the fragile psychosocial background in tetraplegic patients: psychological considerations. J Neurosurg Sci 2020 20201130. DOI: 10.23736/s0390-5616.20.05208-x.

80. Montemurro N. Intracranial hemorrhage and COVID-19, but please do not forget "old diseases" and elective surgery. Brain Behav Immun 2021; 92: 207-208. 20201125. DOI: 10.1016/j.bbi.2020.11.034.

81. Piccirillo JF. Otolaryngology-Head and Neck Surgery and COVID-19. Jama 2020; 324: 1145-1146. DOI: 10.1001/jama.2020.15779.

82. Kibbe MR. Surgery and COVID-19. Jama 2020; 324: 1151-1152. DOI: 10.1001/jama.2020.15191.

83. Lu AC and Burgart AM. Elective Surgery and COVID-19: A Framework for the Untested Patient. *Ann Surg* 2020; 272: e291-e295. DOI: 10.1097/sla.0000000000004474.

84. Weiner JA, Swiatek PR, Johnson DJ, et al. Spine Surgery and COVID-19: The Influence of Practice Type on Preparedness, Response, and Economic Impact. *Global Spine J* 2020; 2192568220949183. 20200807. DOI: 10.1177/2192568220949183.

85. Maspero M, Mazzola M, Bertoglio CL, et al. Major cancer surgery during the coronavirus pandemic: experience from a tertiary referral center and COVID-19 hub in Northern Italy. *Br J Surg* 2020; 107: e440-e441. 20200805. DOI: 10.1002/bjs.11892.

86. Rosa ESJC, Ribeiro PA, Brito LGO, et al.

Gynecological Surgery and COVID-19: What is the Impact and How Should I Manage it? *Rev Bras Ginecol Obstet* 2020; 42: 415-419. 20200731. DOI: 10.1055/s-0040-1715146.

87. Ingels A, Bibas S, Da Costa JB, et al. Surgery and COVID-19: Balancing the nosocomial risk a french academic center experience during the epidemic peak. *Br J Surg* 2020; 107: e395-e397. 20200729. DOI: 10.1002/bjs.11841.

88. Bresadola V, Biddau C, Puggioni A, et al. General surgery and COVID-19: review of practical recommendations in the first pandemic phase. *Surg Today* 2020; 50: 1159-1167. 20200727. DOI: 10.1007/s00595-020-02086-4.

89. Cobianchi L, Pugliese L, Peloso A, et al. To a New Normal: Surgery and COVID-19 During the Transition Phase. *Ann Surg* 2020; 272: e49-

e51. DOI: 10.1097/sla.0000000000004083.

90. Ho SWL, Tan TL and Lee KT. Elective orthopaedic surgery and COVID-19: knowledge and perceptions of patients in a global pandemic. Singapore Med J 2021; 62: 554-558. 20200716. DOI: 10.11622/smedj.2020109.

91. Bezzio C and Saibeni S. Severe Inflammatory Bowel Disease Flares and COVID-19: Expand the Gastroenterology-Surgery Team to Include an Infectious Disease Specialist. Gastroenterology 2021; 160: 2625-2626. 20200616. DOI: 10.1053/j.gastro.2020.05.082.

92. Soh TLT, Ding BTK, Yap WMQ, et al. Spine Surgery and COVID-19: Early Experiences From Singapore. Spine (Phila Pa 1976) 2020; 45: 786-788. DOI: 10.1097/brs.0000000000003532.

93. Martin AN and Petroze RT. Academic global surgery and COVID-19: Turning impediments into opportunities. Am J Surg 2020; 220: 53-54. 20200514. DOI: 10.1016/j.amjsurg.2020.05.022.

94. Steward JE, Kitley WR, Schmidt CM, et al. Urologic Surgery and COVID-19: How the Pandemic Is Changing the Way We Operate. J Endourol 2020; 34: 541-549. DOI: 10.1089/end.2020.0342.

95. Bali RK and Chaudhry K. Maxillofacial surgery and COVID-19, The Pandemic !! J Maxillofac Oral Surg 2020; 19: 159-161. 20200411. DOI: 10.1007/s12663-020-01361-8.

96. El-Anwar MW, Elzayat S and Fouad YA. ENT manifestation in COVID-19 patients. Auris Nasus Larynx 2020; 47: 559-564.

97. Couloigner V, Schmerber S, Nicollas R, et al. COVID-19 and ENT surgery. *European Annals of Otorhinolaryngology, Head and Neck Diseases* 2020; 137: 161-166.
98. Tysome JR and Bhutta MF. COVID-19: protecting our ENT workforce. *Clin Otolaryngol* 2020; 45: 311-312.
99. Fieux M, Duret S, Bawazeer N, et al. Telemedicine for ENT: Effect on quality of care during Covid-19 pandemic. *European Annals of Otorhinolaryngology, Head and Neck Diseases* 2020; 137: 257-261.
100. Lescanne E, van der Mee-Marquet N, Juvanon J-M, et al. Best practice recommendations: ENT consultations during the COVID-19 pandemic. *European annals of otorhinolaryngology, head and neck diseases* 2020; 137: 303-308.

101. Krajewska J, Krajewski W, Zub K, et al. COVID-19 in otolaryngologist practice: a review of current knowledge. *European Archives of Oto-Rhino-Laryngology* 2020; 277: 1885-1897.
102. Sakhardande KA, Pathak H, Mahadevan J, et al. Concurrent catatonia and COVID-19 infection - An experiential account of challenges and management of cases from a tertiary care psychiatric hospital in India. *Asian J Psychiatr* 2022; 69: 103004. 20220104. DOI: 10.1016/j.ajp.2022.103004.
103. Fond-Harmant L, Kane H, Gourret Baumgart J, et al. International professional practices in mental health, organization of psychiatric care, and COVID-19: A survey protocol. *PLoS One* 2021; 16: e0261818. 20211228. DOI: 10.1371/journal.pone.0261818.

104. Eyllon M, Dang AP, Barnes JB, et al. Associations between psychiatric morbidity and COVID-19 vaccine hesitancy: An analysis of electronic health records and patient survey. *Psychiatry Res* 2022; 307: 114329. 20211207. DOI: 10.1016/j.psychres.2021.114329.
105. Hoertel N, Sánchez-Rico M, Herrera-Morueco JJ, et al. Comorbid medical conditions are a key factor to understand the relationship between psychiatric disorders and COVID-19-related mortality: Results from 49,089 COVID-19 inpatients. *Mol Psychiatry* 2021: 1-3. 20211126. DOI: 10.1038/s41380-021-01393-7.
106. Heilbronner U, Streit F, Vogl T, et al. Interplay between the Genetics of Personality Traits, severe Psychiatric Disorders, and COVID-19 Host Genetics in the Susceptibility to SARS-CoV-2 Infection - ADDENDUM. *BJPsych Open* 2021; 7:

- e206. 20211118. DOI: 10.1192/bjo.2021.1037.
107. Yalçın M, Sönmez Güngör E, Ergelen M, et al. Characteristics and Outcomes of Psychiatric Inpatients With Severe Mental Illness and COVID-19: Experience From a COVID-19-Specific Acute Psychiatric Ward in Istanbul. *J Nerv Ment Dis* 2021; 209: 884-891. DOI: 10.1097/nmd.0000000000001450.
108. Kazi SE, Akhter S, Periasamy D, et al. Acute Psychosis and COVID-19 Infection: Psychiatric Symptoms in Hospitalized Patients. *Cureus* 2021; 13: e18121. 20210920. DOI: 10.7759/cureus.18121.
109. Heilbronner U, Streit F, Vogl T, et al. Interplay between the genetics of personality traits, severe psychiatric disorders and COVID-19 host genetics in the susceptibility to SARS-CoV-2 in-

fection. BJPsych Open 2021; 7: e188. 20211007.

DOI: 10.1192/bjo.2021.1030.

110. Schwartz AC and Brenner AM. Psychiatric Education and COVID-19: Challenges, Responses, and Future Directions. Acad Psychiatry 2021; 45: 535-538. DOI: 10.1007/s40596-021-01530-y.

111. Vukojević J, Đuran N, Žaja N, et al. 100 Years apart: Psychiatric admissions during Spanish flu and COVID-19 pandemic. Psychiatry Res 2021; 303: 114071. 20210624. DOI: 10.1016/j.psychres.2021.114071.

112. Sawant N, Ingawale S, Lokhande U, et al. Psychiatric Sequelae and COVID Experiences of Post COVID -19 Recovered Resident Doctors and Interns of a Tertiary General Hospital in Mumbai. J Assoc Physicians India 2021; 69: 22-26.

DOI: 10.0104/japi.2021.03.

113. Ward-Miller S, Farley EM, Espinosa L, et al. Psychiatric mental health nursing in the international year of the nurse and COVID-19: One hospital's perspective on resilience and innovation - Past, present and future. Arch Psychiatr Nurs 2021; 35: 303-310. 20201120. DOI: 10.1016/j.apnu.2020.11.002.

114. He Y, Yu R and Ren J. The Correlation between Psychiatric Disorders and COVID-19: A Narrative Review. Psychiatr Danub 2021; 33: 76-85. DOI: 10.24869/psyd.2021.76.

115. Zhao YJ, Jin Y, Rao WW, et al. The prevalence of psychiatric comorbidities during the SARS and COVID-19 epidemics: a systematic review and meta-analysis of observational studies. J Affect Disord 2021; 287: 145-157. 20210311.

DOI: 10.1016/j.jad.2021.03.016.

116. Ayuso-Mateos JL, Soriano JB and Ancochea J. Face mask exemptions, psychiatric patients, and COVID-19. *Eur Psychiatry* 2020; 64: e6. 20201207. DOI: 10.1192/j.eurpsy.2020.107.

117. van der Meer D, Pinzón-Espinosa J, Lin BD, et al. Associations between psychiatric disorders, COVID-19 testing probability and COVID-19 testing results: findings from a population-based study - ERRATUM. *BJPsych Open* 2020; 6: e141. 20201113. DOI: 10.1192/bjo.2020.119.

118. Sönmez Güngör E, Yalçın M, Yerebakan Tüzer M, et al. Adverse drug reactions associated with concurrent acute psychiatric treatment and Covid-19 drug therapy. *Int J Psychiatry Clin Pract* 2021; 25: 142-146. 20201104. DOI:

10.1080/13651501.2020.1843182.

119. Dadakhah-Chimeh Z and Jozaghi E. Mental Health Care, Policy, and COVID-19: The Renewed Role for Psychiatric and Addiction Nursing. *Policy Polit Nurs Pract* 2020; 21: 193-194. 20200903. DOI: 10.1177/1527154420957305.

120. Mohebbi N, Talebi A, Moghadamnia M, et al. Drug Interactions of Psychiatric and COVID-19 Medications. *Basic Clin Neurosci* 2020; 11: 185-200. 20200427. DOI: 10.32598/bcn.11.covid19.2500.1.

121. Farhan R and Llopis P. Psychiatric and neuropsychiatric syndromes and COVID-19. *Lancet Psychiatry* 2020; 7: 736. DOI: 10.1016/s2215-0366(20)30317-5.

122. Pattni V, Phillips J and Saha R. Psychiatric and neuropsychiatric syndromes and COVID-19.

Lancet Psychiatry 2020; 7: 664. DOI: 10.1016/s2215-0366(20)30299-6.

123. Rogers JP, Chesney E, Oliver D, et al. Psychiatric and neuropsychiatric syndromes and COVID-19 - Authors' reply. Lancet Psychiatry 2020; 7: 664-665. DOI: 10.1016/s2215-0366(20)30304-7.

124. Velayudhan L, Aarsland D and Ballard C. Psychiatric and neuropsychiatric syndromes and COVID-19. Lancet Psychiatry 2020; 7: 663-664. DOI: 10.1016/s2215-0366(20)30291-1.

125. van der Meer D, Pinzón-Espinosa J, Lin BD, et al. Associations between psychiatric disorders, COVID-19 testing probability and COVID-19 testing results: findings from a population-based study. BJPsych Open 2020; 6: e87.

20200722. DOI: 10.1192/bjo.2020.75.

126. Parker CB, Calhoun A, Davidson L, et al. Differentiating Domains of Involuntary Containment for Persons With Severe Psychiatric Impairment and COVID-19. Psychosomatics 2020; 61: 572-574. 20200618. DOI: 10.1016/j.psych.2020.06.010.

127. Toptan T, Ciesek S and Hoehl S. Pediatrics and COVID-19. Adv Exp Med Biol 2021; 1318: 197-208. DOI: 10.1007/978-3-030-63761-3_12.

128. Christakis DA. Pediatrics and COVID-19. Jama 2020; 324: 1147-1148. DOI: 10.1001/jama.2020.14297.

129. Molloy EJ and Bearer CB. Pediatric Research and COVID-19: the changed landscape. Pediatr Res 2021; 1-2. 20211209. DOI: 10.1038/s41390-021-01857-0.

130. Aggarwal S and Madaan P. Shame, pediatric PNES, and COVID-19. *Seizure* 2022; 94: 90-91. 20211130. DOI: 10.1016/j.seizure.2021.11.025.
131. Clemente D, Udaondo C, de Inocencio J, et al. Clinical characteristics and COVID-19 outcomes in a regional cohort of pediatric patients with rheumatic diseases. *Pediatr Rheumatol Online J* 2021; 19: 162. 20211127. DOI: 10.1186/s12969-021-00648-5.
132. Russell KW, Acker SN, Ignacio RC, et al. Child physical abuse and COVID-19: Trends from nine pediatric trauma centers. *J Pediatr Surg* 2021 20211008. DOI: 10.1016/j.jpedsurg.2021.09.050.
133. Yadav S. Pediatric Mucormycosis and COVID-19. *J Contemp Dent Pract* 2021; 22: 855. 20210801.

134. Brun BN and Aylward SC. Pediatric Intracranial Hypertension: A Spotlight on Imaging, the Idiopathic Intracranial Hypertension Treatment Trial, and COVID-19 Associated Cases. *Semin Pediatr Neurol* 2021; 40: 100922. 20210904. DOI: 10.1016/j.spen.2021.100922.
135. Downes KJ, Statler VA, Orscheln RC, et al. Return to School and COVID-19 Vaccination for Pediatric Solid Organ Transplant Recipients in the United States: Expert Opinion for 2021-2022. *J Pediatric Infect Dis Soc* 2021 20211103. DOI: 10.1093/jpids/piab098.
136. Mehrvar A, Qaddoumi I, Tashvighi M, et al. Treatment and outcomes of pediatric patients with cancer and COVID-19 at MAHAK pediatric cancer treatment and research center, Tehran, Iran. *Semin Oncol* 2021; 48: 295-303. 20210908. DOI: 10.1053/j.seminon-

col.2021.09.003.

137. Hall JB, Woods ML and Luechtefeld JT. Pediatric Physical Therapy Telehealth and COVID-19: Factors, Facilitators, and Barriers Influencing Effectiveness-a Survey Study. *Pediatr Phys Ther* 2021; 33: 112-118. DOI: 10.1097/pep.0000000000000800.

138. Liuzzo Scorpo M, Ferrante G and La Grutta S. An Overview of Asthma and COVID-19: Protective Factors Against SARS-COV-2 in Pediatric Patients. *Front Pediatr* 2021; 9: 661206. 20210429. DOI: 10.3389/fped.2021.661206.

139. Schiliro M, Vogel ER, Paolini L, et al. Cigarette Smoke Exposure, Pediatric Lung Disease, and COVID-19. *Front Physiol* 2021; 12: 652198. 20210427. DOI: 10.3389/fphys.2021.652198.

140. Ferrero P and Piazza I. Cardio-thoracic

imaging and COVID-19 in the pediatric population: A narrative review. *World J Radiol* 2021; 13: 94-101. DOI: 10.4329/wjr.v13.i4.94.

141. Elia GM, Angel A, Regacini R, et al. Acute chest syndrome and COVID-19 in sickle cell disease pediatric patients. *Hematol Transfus Cell Ther* 2021; 43: 104-108. 20201219. DOI: 10.1016/j.htct.2020.11.005.

142. Khalili M, Gholamzadeh Baeis M, Saneifard H, et al. Pediatric with Gaucher disease and Covid-19: Case report of uncommon manifestation of Covid-19 in chest Ct. *Vis J Emerg Med* 2021; 22: 100966. 20210118. DOI: 10.1016/j.visj.2021.100966.

143. Abrams EM, Sinha I, Fernandes RM, et al. Pediatric asthma and COVID-19: The known, the unknown, and the controversial. *Pediatr Pul-*

monol 2020; 55: 3573-3578. 20201022. DOI: 10.1002/ppul.25117.

144. Mihalopoulos M, Levine AC, Marayati NF, et al. The Resilient Child: Sex-Steroid Hormones and COVID-19 Incidence in Pediatric Patients. J Endocr Soc 2020; 4: bvaa106. 20200728. DOI: 10.1210/jendso/bvaa106.

145. Bar-Or D, Rael LT and Brody EN. Insights into pediatric multi-system inflammatory syndrome and COVID-19. Clin Chim Acta 2020; 510: 121-122. 20200714. DOI: 10.1016/j.cca.2020.07.025.

146. González-Dambrauskas S, Vásquez-Hoyos P, Camporesi A, et al. Pediatric Critical Care and COVID-19. Pediatrics 2020; 146 20200609. DOI: 10.1542/peds.2020-1766.

147. Dolinger MT, Person H, Smith R, et al.

Pediatric Crohn Disease and Multisystem Inflammatory Syndrome in Children (MIS-C) and COVID-19 Treated With Infliximab. J Pediatr Gastroenterol Nutr 2020; 71: 153-155. DOI: 10.1097/mpg.0000000000002809.

148. Uzun ND, Tekin M, Sertel E, et al. Psychological and social effects of COVID-19 pandemic on obstetrics and gynecology employees. J Surg Med 2020; 4: 355-358.

149. Alsharaydeh I, Rawashdeh H, Saadeh N, et al. Challenges and solutions for maternity and gynecology services during the COVID-19 crisis in Jordan. International Journal of Gynecology & Obstetrics 2020; 150: 159-162.

150. Hertling S, Hertling D, Loos F, et al. Digitization in gynecology and obstetrics in times of COVID-19: Results of a national survey. Internet

Interventions 2021; 26: 100478.

151. Romão GS, Schreiner L, Laranjeiras CLS, et al. Medical residency in gynecology and obstetrics in times of COVID-19: recommendations of the national specialized commission on medical residency of FEBRASGO. *Revista Brasileira de Ginecologia e Obstetrícia* 2020; 42: 411-414.

152. Elhadi M, Msherghi A, Elgzairi M, et al. Assessment of the preparedness of obstetrics and gynecology healthcare systems during the COVID-19 pandemic in Libya. *International Journal of Gynecology & Obstetrics* 2020; 150: 406-408.

153. Martinez-Portilla RJ, Gil MM and Poon LC. Scientific effort in combating COVID-19 in obstetrics and gynecology. *Ultrasound in Obstetrics & Gynecology* 2021; 57: 189.

154. Murtada R, Carbonnel M, Revaux A, et al. Managing a department of Obstetrics and Gynecology in times of COVID-19 outbreak: The Foch Hospital experience. *Frontiers in Surgery* 2021; 8.

155. Brito LG, Romão GS, Fernandes CE, et al. Impact of COVID-19 on Brazilian medical residencies in obstetrics and gynecology. *International Journal of Gynecology & Obstetrics* 2020; 150: 411-412.

156. Juan J, Gil MM, Rong Z, et al. Effect of coronavirus disease 2019 (COVID-19) on maternal, perinatal and neonatal outcome: systematic review. *Ultrasound in Obstetrics & Gynecology* 2020; 56: 15-27.

157. de Sire A, Andrenelli E, Negrini F, et al. Rehabilitation and COVID-19: update of the rapid

living systematic review by Cochrane Rehabilitation Field as of August 31st, 2021. Eur J Phys Rehabil Med 2021; 57: 1045-1048. DOI: 10.23736/s1973-9087.21.07384-6.

158. Ceravolo MG, Andrenelli E, Arienti C, et al. Rehabilitation and COVID-19: rapid living systematic review by Cochrane Rehabilitation Field - third edition. Update as of June 30th, 2021. Eur J Phys Rehabil Med 2021; 57: 850-857. DOI: 10.23736/s1973-9087.21.07301-9.

159. Negrini F, de Sire A, Andrenelli E, et al. Rehabilitation and COVID-19: update of the rapid living systematic review by Cochrane Rehabilitation Field as of April 30, 2021. Eur J Phys Rehabil Med 2021; 57: 663-667. 20210615. DOI: 10.23736/s1973-9087.21.07125-2.

160. Andrenelli E, Negrini F, de Sire A, et al. Re-

habilitation and COVID-19: update of the rapid living systematic review by Cochrane Rehabilitation Field as of February 28, 2021. Eur J Phys Rehabil Med 2021; 57: 481-484. 20210416. DOI: 10.23736/s1973-9087.21.06995-1.

161. de Sire A, Andrenelli E, Negrini F, et al. Rehabilitation and COVID-19: a rapid living systematic review by Cochrane Rehabilitation Field updated as of December 31st, 2020 and synthesis of the scientific literature of 2020. Eur J Phys Rehabil Med 2021; 57: 181-188. 20210218. DOI: 10.23736/s1973-9087.21.06870-2.

162. Negrini F, de Sire A, Andrenelli E, et al. Rehabilitation and COVID-19: a rapid living systematic review 2020 by Cochrane Rehabilitation Field. Update as of October 31st, 2020. Eur J Phys Rehabil Med 2021; 57: 166-170. 20201202. DOI: 10.23736/s1973-9087.20.06723-4.

163. Brika M, Bossu M, Fautrelle L, et al. Geriatric Rehabilitation and COVID-19: a Case Report. *SN Compr Clin Med* 2020; 1-9. 20201109. DOI: 10.1007/s42399-020-00613-5.

164. Andrenelli E, Negrini F, de Sire A, et al. Rehabilitation and COVID-19: a rapid living systematic review 2020 by Cochrane Rehabilitation Field. Update as of September 30th, 2020. *Eur J Phys Rehabil Med* 2020; 56: 846-852. 20201029. DOI: 10.23736/s1973-9087.20.06672-1.

165. de Sire A, Andrenelli E, Negrini F, et al. Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. Update as of August 31st, 2020. *Eur J Phys Rehabil Med* 2020; 56: 839-845. 20201001. DOI: 10.23736/s1973-9087.20.06614-9.

166. Negrini F, de Sire A, Andrenelli E, et al.

Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. Update as of July 31st, 2020. *Eur J Phys Rehabil Med* 2020; 56: 652-657. 20200901. DOI: 10.23736/s1973-9087.20.06539-9.

167. Ceravolo MG, Arienti C, de Sire A, et al. Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. *Eur J Phys Rehabil Med* 2020; 56: 642-651. 20200724. DOI: 10.23736/s1973-9087.20.06501-6.

168. Dalal H, Taylor RS, Greaves C, et al. Correspondence to the EJPC in response to position paper by Ambrosetti M et al. 2020: Cardiovascular rehabilitation and COVID-19: The need to maintain access to evidence-based services from the safety of home. *Eur J Prev Cardiol* 2020: 2047487320923053. 20200428. DOI:

10.1177/2047487320923053.

169. Srivastava S, Rai PS, Jain A, et al. Perception and practice regarding infection control measures in Radiology department during pre-COVID and COVID times-A survey among radiologists and a review of current concepts and literature. *Indian J Radiol Imaging* 2021; 31: S139-s147. 20210123. DOI: 10.4103/ijri.IJRI_567_20.

170. Chaluvashetty SB, Kalra N, Bhujade H, et al. Interventional radiology and COVID-19: How to face the challenge? *Indian J Radiol Imaging* 2021; 31: S38-s44. 20210123. DOI: 10.4103/ijri.IJRI_351_20.

171. Arenas-Jiménez JJ, Gorospe Sarasúa L and Martí de Gracia M. Presentation of the Serie «Radiology and COVID-19» Lessons learned from COVID-19: the radiologist's point of view.

Radiologia (Engl Ed) 2020; 62: 502. 20201006. DOI: 10.1016/j.rx.2020.09.002.

172. Chan JCX, Kwok KY, Ma JKF, et al. Radiology and COVID-19. *Hong Kong Med J* 2020; 26: 286-288. DOI: 10.12809/hkmj205102.

173. Joob B and Wiwanitkit V. Radiology Management and COVID-19 in Resource Limited Setting. *Acad Radiol* 2020; 27: 750. 20200414. DOI: 10.1016/j.acra.2020.03.021.

174. Chandy PE, Nasir MU, Srinivasan S, et al. Interventional radiology and COVID-19: evidence-based measures to limit transmission. *Diagn Interv Radiol* 2020; 26: 236-240. DOI: 10.5152/dir.2020.20166.

175. D'Ambrosi R. Orthopedics and COVID-19: Scientific Publications Rush. *Indian J Orthop* 2020; 54: 1-7. 20200525. DOI: 10.1007/

s43465-020-00141-3.

176. Abdelnasser MK, Morsy M, Osman AE, et al. COVID-19. An update for orthopedic surgeons. SICOT-J 2020; 6.

177. Stambough JB, Curtin BM, Gililland JM, et al. The past, present, and future of orthopedic education: lessons learned from the COVID-19 pandemic. The Journal of Arthroplasty 2020; 35: S60-S64.

178. Menendez ME, Jawa A, Haas DA, et al. Orthopedic surgery post COVID-19: an opportunity for innovation and transformation. Journal of shoulder and elbow surgery 2020; 29: 1083-1086.

179. Liang ZC and Ooi SB. COVID-19: A Singapore Orthopedic resident's musings in the Emergency Department. Academic Emergency Medi-

cine 2020; 27: 349.

180. Wang Y, Zeng L, Yao S, et al. Recommendations of protective measures for orthopedic surgeons during COVID-19 pandemic. Knee Surgery, Sports Traumatology, Arthroscopy 2020; 28: 2027-2035.

181. Tahmasebi MN and Nabian MH. How to Continue Essential Orthopedic Services during COVID-19 Crisis? Archives of Bone and Joint Surgery 2020; 8: 295.

182. Zeng H, Li G, Weng J, et al. The strategies of perioperative management in orthopedic department during the pandemic of COVID-19. Journal of Orthopaedic Surgery and Research 2020; 15: 1-9.

183. Basso T, Dale H, Langvatn H, et al. Virus transmission during orthopedic surgery on pa-

tients with COVID-19—a brief narrative review.

Acta orthopaedica 2020; 91: 534-537.

184. Luceri F, Morelli I, Accetta R, et al. Italy and COVID-19: the changing patient flow in an orthopedic trauma center emergency department. *BioMed Central*, 2020, p. 1-4.

185. Ojeahere MI, de Filippis R, Ransing R, et al. Management of psychiatric conditions and delirium during the COVID-19 pandemic across continents: lessons learned and recommendations. *Brain, Behavior, & Immunity-Health* 2020; 9: 100147.

186. Bann DV, Patel VA, Saadi R, et al. Best practice recommendations for pediatric otolaryngology during the COVID-19 pandemic. *Otolaryngology–Head and Neck Surgery* 2020; 162: 783-794.

187. Jin H, Hong C, Chen S, et al. Consensus for prevention and management of coronavirus disease 2019 (COVID-19) for neurologists. *Stroke and Vascular Neurology* 2020; 5.

188. Qiu L, Morse A, Di W, et al. Management of gynecology patients during the coronavirus disease 2019 pandemic: Chinese expert consensus. *American journal of obstetrics and gynecology* 2020; 223: 3-8.

189. Lugo-Agudelo LH, Sarmiento KMC, Brunal MAS, et al. Adaptations for rehabilitation services during the COVID-19 pandemic proposed by scientific organizations and rehabilitation professionals. *Journal of Rehabilitation Medicine* 2021; 53: jrm00228-jrm00228.

190. von Oertzen TJ, Macerollo A, Leone M, et al. EAN consensus statement for management

of patients with neurological diseases during the COVID-19 pandemic. *European journal of neurology* 2021; 28: 7-14.

191. Baigent C, Windecker S, Andreini D, et al. European Society of Cardiology guidance for the diagnosis and management of cardiovascular disease during the COVID-19 pandemic: part 1—epidemiology, pathophysiology, and diagnosis. *Cardiovascular Research* 2021.

192. López V, Vázquez T, Alonso-Titos J, et al. Recommendations on management of the SARS-CoV-2 coronavirus pandemic (Covid-19) in kidney transplant patients. *Nefrología (English Edition)* 2020; 40: 265-271.

193. Fahmy DH, El-Amawy HS, El-Samongy MA, et al. COVID-19 and dermatology: a comprehensive guide for dermatologists. *Journal of the*

European Academy of Dermatology and Venereology: JEADV 2020.

194. Gegúndez-Fernández JA, Llovet-Osuna F, Fernández-Vigo JI, et al. Recommendations for ophthalmologic practice during the easing of COVID-19 control measures. *Acta Ophthalmologica* 2021.

195. Gurgel BCV, Borges SB, Borges REA, et al. COVID-19: Perspectives for the management of dental care and education. *J Appl Oral Sci* 2020; 28: e20200358. 20200928. DOI: 10.1590/1678-7757-2020-0358.

196. Mitura K, Myśliwiec P, Rogula W, et al. Guidelines for the management of surgical departments in non-uniform hospitals during the COVID-19 pandemic. *Pol Przegl Chir* 2020; 92: 48-59. DOI: 10.5604/01.3001.0014.1039.

197. Stansfield J, Dobbs S, Harrison R, et al. Management of ENT emergencies during the coronavirus disease 2019 pandemic. *J Laryngol Otol* 2021; 135: 117-124. 20210222. DOI: 10.1017/s0022215121000530.
198. Alharbi A, Alharbi S and Alqaidi S. Guidelines for dental care provision during the COVID-19 pandemic. *Saudi Dent J* 2020; 32: 181-186. 20200407. DOI: 10.1016/j.sdentj.2020.04.001.
199. Flemming S, Hankir M, Ernestus RI, et al. Surgery in times of COVID-19-recommendations for hospital and patient management. *Langenbecks Arch Surg* 2020; 405: 359-364. 20200508. DOI: 10.1007/s00423-020-01888-x.
200. Couloigner V, Schmerber S, Nicolas R, et al. COVID-19 and ENT Surgery.

- Eur Ann Otorhinolaryngol Head Neck Dis* 2020; 137: 161-166. 20200423. DOI: 10.1016/j.anorl.2020.04.012.
201. Xiang YT, Zhao N, Zhao YJ, et al. An overview of the expert consensus on the mental health treatment and services for major psychiatric disorders during COVID-19 outbreak: China's experiences. *Int J Biol Sci* 2020; 16: 2265-2270. 20200525. DOI: 10.7150/ijbs.47419.
202. Basavaraja GV, Chandrasekar S, Bansal A, et al. IAP Guideline on Practicing Safely During COVID-19 Era: Clinics and Small Establishments. *Indian Pediatr* 2021; 58: 383-390. DOI: 10.1007/s13312-021-2201-y.

Proof