

A SYSTEMATIC REVIEW: COVID 19 GUIDELINES FOR OCCUPATIONAL THERAPY & FURTHER RECOMMENDATIONS FOR RENEWING GUIDELINES

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Abstract

Keywords:

COVID19, Occupational Therapy, Workflow directives, Decision making tree, therapeutic services, Safety directives, personal protective directives, Technology.

INTRODUCTION: As a part of the essential services, Occupational therapy is based on the foundation of patient care. Occupational Therapy relies on individualized care. Some of the articles give comprehensive description for occupational therapy services during COVID 19. The review compiles various Guidelines available for Occupational Therapists

METHODOLOGY: Systematic Review.

RESULTS. COVID-19 guidelines for Occupational Therapy are subdivided in headings .Some of them are Ethical Guidelines, Work flow directives Decision making tree , Determining risks, Provision of Therapeutic services, Therapist Directives, Patient patients' safety Directives, Managing Care-givers, Patient H Directives, ~~Patient Care Directives~~, Therapy Room Guidelines, Utilising Tecl during COVID-19 Lock Down. Most of the guidelines imposed more on ethical issue have given importance to decision making tree, patient & therapist safety guideline occupational therapy is client directed profession many have suggested care directives & use of technology for caregiver's guidance. Further this article explains the additional directives for individualized functional activity training & building work capacity.

CONCLUSION: Guidelines can be effectively used by Occupational Therapy professionals. The recommendations suggested in the present article can be used for identification of the new symptoms, their effects on functional capacity & prevention of complications through safe handling & occupational therapy services.

Introduction

COVID-19 has been declared a Pandemic. To date, COVID-19 has affected, cumulatively 53.7 million people worldwide, resulting in approximate 1.3 million reported deaths.¹ Numerous preventative strategies and non-pharmaceutical interventions have been employed to mitigate the spread of disease including careful infection control, the isolation of patients, and social distancing. Management is predominantly focused on the provision of supportive care, with oxygen therapy representing the major treatment intervention. Medical therapy involving corticosteroids and antivirals have also been encouraged as part of critical management schemes. However, there is at present no specific antiviral recommended for the treatment of COVID-19, and no vaccine or suitable cure is currently available.²

Although, the increased pressure confronting health care workers must also be addressed. A review of the literature reflects these unique challenges are two-fold in nature. Health care workers struggle with the overwhelming burden that illness can have on the system as a whole while juggling the potential adverse effects that these diseases can have

on the workers themselves.³ Thus, guidelines laid by the Health Ministry and other authorities play a crucial role in delivering effective and ethical service during the Pandemic. Occupational Therapy relies on individualized care. But, generalized directives are important that lay an outline for optimal functioning. As a part of the essential services, Occupational therapy too is based on the foundation of patient care. Although, Overwhelmed rehabilitation during or post-Lockdown, during this Worldwide Health Crisis, too is not appropriate. Further, the exhaustive information available on COVID-19, may often leave therapists juggled regarding the correct directives for Service provision. Hence, comprehensive description of the same is necessary.

The review compiles various Guidelines available for Occupational Therapists.

It will help to encompass recommendations in each domain of work considered in several directives. The current review to provide Clinicians with an Over view of the several pre-existing Guidelines available for Occupational therapy and helping practitioners in effective implementation of the same. The consideration of addition to the existing guidelines may provide further directives for management during sub-acute & post recovery phase or in patients with COVID 19.

Methodology

Study Design: A Systematic Review

Inclusion Criteria :

- Guidelines or Directives for Occupational Therapy or Rehabilitation Services during COVID-19 Pandemic from their time of inception to November, 2020.

Exclusion Criteria :

Guidelines or Directives, in the Scope of Practice of Occupational Therapy, but are available on payment.

- The following computerised Scientific databases were searched from their inception to May,2020: Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, MEDLINE, EpiINFO, WFOT, PUBMED, BIOSIS Previews, Google Scholar.
- A Search strategy was established combining subject headings and free terms.
- Subject headings involved COVID-19 guidelines for Occupational Therapy, Ethical Guidelines, Work flow directives, Decision making, Determining risks, Provision of Therapeutic services, Therapist Safety Directives, Patient safety Directives, Managing Care-givers, Patient Handling Directives, Patient Care Directives, Therapy Room Guidelines, Therapy Session Guidelines, Therapeutic Equipment Directives, Utilising Technology, The Smart Clinical OT Educational Plan during COVID-19 Lock Down.
- The search strategy included the terms and text words for 'COVID-19' OR 'Coronavirus' OR "Pandemic" AND "Occupational Therapy" OR "OT" OR "Rehabilitation" AND 'Guidelines' OR "Directions" OR "Recommendations," OR "Directives" AND "Disaster Management" OR "Ethical" OR "Work flow" OR "Decision" OR "Therapeutic Services Provision" OR "Resume Services" OR "Therapist Safety" OR "PPE" OR "Personal Protective Equipment" AND "Donning OR "Doffing" "Patient Safety" OR "Care-giver management" OR "Patient Care" OR "Patient Handling" OR "Acute Care" OR "Chronic Care" OR "Post Acute Care" OR "Breathing Exercises" OR "Energy conservation" OR "Respiratory etiquettes" OR "Therapy Rooms" OR "Rehabilitation Centres" OR "Therapy Session" OR "Therapeutic Equipment" OR "Durable Medical Equipment" OR "use of Technology" OR "use of advanced Technology" OR "Teletherapy" OR "Telerehabilitation" OR "Sanitation" OR "Sterilisation" OR "Hand Hygiene" OR "waste management" OR "Environmental Care" OR "e-Learning" OR "Academic" OR "Online Teaching"
- All search terms were transformed into a free-term formulation.
- References from key papers were also scanned to ensure that all key studies were included.

Results & discussion

The table 1 elaborates the key findings from various references

1	Ethical Guidelines	<ol style="list-style-type: none">1. Focus on making the best possible choices we can, given the extreme Pandemic circumstances.⁴2. Seek out Institutional and Professional resources and guidance, follow ethical problem-solving steps, and make the best decisions in an extraordinarily difficult time.⁴3. Step into leadership roles as part of the inter professional team making decisions regarding disaster preparedness and management.⁴
2	Work Flow Directives	<ol style="list-style-type: none">1. Provide the right care to the right patient at the right time.⁵2. Communicate with the referring provider team to determine the urgency of the rehabilitation needs of the patient.⁵3. Based on rehabilitation needs, patients with pending test results may be deferred to minimize use of PPE and undue exposure.⁵

3	Decision making	<ol style="list-style-type: none"> 1. Understand the disease process before evaluating and treating the patient who is positive for COVID-19 patients.⁵ 2. Determine appropriateness for rehabilitation needs.⁵ 3. Decision tree specific to ICU related to patient levels of functioning.⁵ 4. Decision tree specific to medical/surgical unit on clinical reasoning of emergency for procedure.⁵ 5. Therapists/teams shall be identified on a daily/ weekly basis who will provide the rehabilitation services to COVID -19 positive patients.⁵
4	Determining risks	<ol style="list-style-type: none"> 1. Prioritization should consider the risk of a patient not receiving immediate rehabilitation on critical outcomes (i.e., risk of hospitalization, extended hospital stay).⁶ 2. If proceeding with a rehabilitation assessment or treatment session, point-of-care risk assessments should be conducted prior to each patient interaction.⁶ 3. Exposure to patients who have been diagnosed with COVID-19 should be avoided for staff who are at increased risk of susceptibility to developing serious illness resulting from COVID-19 exposure.⁶

5	Provision of Therapeutic Services	<ol style="list-style-type: none">1. Strict precautionary measures and safe ways of practice has to be thoughtfully brainstormed.⁷2. Feasible options for provision of safe and effective therapeutic services must be planned based on the previous patient load and characteristics.⁷3. If it is not feasible to provide safe therapeutic services, an alternate strategy could be considered.⁷

6	Therapist Safety Directives	<ol style="list-style-type: none"> 1. Ensure his/her safety and physical and mental well-being before discharging various functions.⁸ 2. Occupational therapist shall adjust and/or redesign, within the context of his family and/or social environment, his or her habits, roles, and routine.⁸ 3. Continuously monitor own health status.⁸ 4. Comply with personal protection and hygiene measures as recommended by DOH or the World Health Organization.⁸ 5. Practice respiratory etiquette.⁸ 6. Practice hand hygiene consistently.⁸ 7. Comply with social distancing measures.⁸ 8. Ensure a step-by-step process for donning and doffing PPE to avoid contamination.⁶ 9. It is important to note that after an aerosolized procedure the therapist may not access the room for 60 minutes.⁵ 10. Responsibly self-impose and follow home quarantine guidelines if he/she manifests signs/symptoms of COVID-19 infection, has recent travel history, and/or has been in contact with a Person Under Monitoring (PUM).⁸

7	Patient Safety Directives	<ol style="list-style-type: none"> 1. A surgical face mask should not be worn by patients if there is potential for their therapy and care to be compromised (such as when receiving oxygen therapy).⁷ 2. Though it is difficult for children with disabilities and special needs to wear a mask – it is important to adhere to the principles of infection prevention and control.⁷
8	Managing Care Givers	<ol style="list-style-type: none"> 1. Caregivers to all areas of the rehabilitation and care facility should be restricted to essential persons only, such as parents of paediatric patients.⁷ 2. Local risk assessment and practical management should be considered.⁷ 3. Caregivers entering a segregated/group area must be instructed on hand hygiene.⁷ 4. Limiting entry points to a facility.⁷ 5. Caregivers with COVID-19 symptoms must not enter the rehabilitation facility.⁷

9	Patient Handling Directives	<ol style="list-style-type: none">1. If moving and handling is necessary, consider offering the patient a surgical face mask, provided this does not compromise rehabilitation and care.⁷2. Patients that have been diagnosed with COVID-19 require close monitoring of patient's activity tolerance and how much supplemental O₂ the patient requires to maintain SpO₂ 92% to prescribe appropriate dosing of exercises and activities.⁵3. Employ clinical judgment for when to terminate the session based on the patient's signs and symptoms for tolerance to activity.⁵4. Re-usable moving and handling equipment like wheelchair, push chairs and hoists must, as a minimum, be decontaminated in accordance with the manufacturer's instructions.⁷

10	Patient Care Directives	<p><u>ACUTE CARE REHABILITATION:</u>⁶</p> <ol style="list-style-type: none">1. Prevention, detection, and monitoring of patients2. Assessment and management of impairments in physical and cognitive functioning3. Optimize bed and seating positioning using pressure relief principles (e.g., mattress)4. Assessment and management of ADLs to encourage early mobilization5. Provision of assistive devices for ADLs, communication, seating and mobility6. Consider and assess mental health and emotional coping strategies for patients <p><u>POST ACUTE CARE REHABILITATION:</u>⁶</p> <ol style="list-style-type: none">1. Re-assess and address any cognitive changes to facilitate functional independence2. Preparation and planning for discharge, including home safety and caregiver supports.3. Consider social determinants of health when discharge planning (e.g., income)4. Re-assessment and management of ADLs, including adaptive strategies, such as assistive devices and energy conservation, that encourage functional independence.5. Address mental health and psychosocial needs of patients and/or caregivers
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11	Therapy Room Guidelines	<ol style="list-style-type: none">1. The transmission and spread of infection are very quick in an indoor therapy environment compared to well-ventilated environment or outdoor therapy.⁷2. Ensure the rooms of your rehabilitation center, especially toilets and wash areas do not have common usable products like soap, towel, mug, glasses etc.⁷3. Staff, patients and caregivers must be advised to make their own arrangements while accessing these areas.⁷4. For toilets, alternate strategies can be thought about.⁷5. Cleaning and decontamination should only be performed by staff trained in the use of the appropriate PPE.⁷6. Rooms/areas where the PPE is removed must be decontaminated, ideally timed to coincide with periods immediately after the PPE removal by groups of staff (at least twice daily).⁷7. It is strongly recommended that cleaning of therapy areas is undertaken separately to the cleaning of other common cohort areas in the facility.⁷8. Dedicated or disposable equipment (such as mop heads, cloths) must be used for environmental decontamination.9. Communal cleaning trollies should not enter therapy rooms.⁷

12	Therapy Session Guidelines	<ol style="list-style-type: none">1. Having one patient for a session with one therapist in one room with appropriate precautionary measures would be ideal to prevent transmission of infection.⁷2. Gloves and aprons are subject to single use as per SICPs with disposal after each patient or resident contact.⁷3. Fluid repellent surgical mask and eye protection can be used for a session of work rather than a single patient or resident contact.⁷4. Gowns or coveralls can be worn for a session of work in higher risk areas.⁷5. In case of children, who cannot or resist wearing PPE (e.g. masks), caregivers can be used strategically to provide therapy services.⁷6. In the above scenario, make sure the caregiver signs a document consenting that they will not use the training on their own without appropriate qualification and/or certification.⁷7. When a therapeutic equipment is used for the rehabilitation session, make sure those set of equipment used for one patient is not shared with another and that equipment is strictly decontaminated as per guidelines provide.⁷8. Extra care must be taken especially when using therapeutic equipment with children.⁷9. Staff/Co-workers should adhere to physical distancing (2 meters) wherever possible, particularly if not wearing the PPE and in non-clinical areas.⁷10. Staff/Co-workers should take regular breaks and rest periods.⁷11. Consider staggering staff breaks to limit the density of therapists and co-workers.⁷12. Receiving cash payments can be avoided and payments can be collected through swipe machines or through online payment methods.⁷
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13	Therapeutic Equipment Directives	<ol style="list-style-type: none">1. Consider all equipment used for therapy as reusable (communal items)⁷2. Patient care equipment should be single-use items if possible.⁷3. Reusable (communal) non-invasive equipment should as far as possible be allocated to the individual patient or cohort of patients.⁷4. Reusable (communal) non-invasive equipment must be decontaminated: after and in between treatment episodes of each patients, after blood and body fluid contamination and at regular intervals as part of equipment cleaning.⁷5. Use Durable Medical Equipment6. While Public Health Emergency remains in effect, it is important that the suppliers carefully document the delivery date of all Durable Medical Equipment (DME) and state that the signature was unable to be obtained due to COVID-19.⁵7. All toys must be cleanable and should be cleaned regularly (preferably at the same time as the environment)8. There is no need to use disposable plates or cutlery. Crockery and cutlery can be washed by hand or in a dishwasher using household detergent and hand-hot water after use.^{9,10}9. Gloves should be removed, and hands decontaminated before touching equipment.
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14	Utilising Technology	<ol style="list-style-type: none">1. To minimize exposure and use of PPE, each patient who is diagnosed with COVID-19, may have a device in their room to be able to see and speak with the patient without entering the room.⁵2. Speak with the bedside nurse and utilize InTouch Inc. or comparable device such as electronic device with HIPPA protection or facility provided phone, to help determine the patient's need for therapy evaluation and intervention prior to entering the room.⁵3. Consider Telerehabilitation tools to observe and communicate directly with patients and/or staff already in isolation areas (e.g., use of data-secure cameras, such as iPads and baby monitors)4. Interactions through tele-health could either be synchronous (activities and interaction happens in real-time, e.g. video conferencing, video or phone call, messaging), asynchronous (activities and interactions may be recorded or stored for a later time, e.g. instructional videos, photo demonstrations), or a combination of both.⁸

15	The Smart Clinical OT Educational Plan during COVID-19 Lock Down	<ol style="list-style-type: none"> 1. Students would be able to learn in a participative learning program using the e- learning facility.¹¹ 2. The learning platform should be easy to operate and cyber secured. ¹¹ 3. Use of various E-Learning platforms. ¹¹ 4. Use of Adult Learning principles. ¹¹ 5. Learning of Fundamental skills, preclinical & clinical skills in UG students. ¹¹ 6. Research projects & clinical based learning, scenario based learning, use of log book & microteaching skills in Postgraduate courses. ¹¹

Discussion

Ethical Guidelines recommend stepping into leadership roles as a part of the inter professional team making decisions regarding disaster preparedness and management.⁴ The Position paper published by WFOT stated, stronger referral for Occupational Therapists and follow-up systems should be developed between community care, hospital and rehab-center programs; and more disability and age friendly accessibility in private and public buildings or spaces. Post disaster or in facing consequences of disaster, Occupational therapist must facilitate accessibility to health care services. Thus, clients are given access to use institutional resources & help in problem solving.¹²

Key recommendations of WFOT for Occupational Therapist include involvement with local community disaster preparedness and planning to include vulnerable groups.

While recommending COVID guidelines several authors have laid importance on work flow directives which includes identifying the emergency or need for rehabilitation services at given point & ability of decision making to differ care till test results confirm, its urgency, to minimize the utilization of emergency resources and identifying Logistics. Occupational therapists can be a member in Logistic management & community awareness during acute phase and take over rehabilitation of these patients, once stable. Position paper emphasizes on Occupational therapists to be involved in all stages of disaster management at both local and national level. Guidelines have provided directives for Occupational Therapist to be a member of the Decision-Making process.¹²

OT practitioners can select roles that fit their personal availability and activity preferences at the system level just identified or within their personal context. Various Practitioners working in Health Care facilities shall be an active member in discussion of existing policies, procedures, and Occupational Therapy roles for the safety of clients.¹³

Observations reveal that several patients suffering from COVID face stress, which can persist over time. Thus Both for short-term, “normal” stress reactions and those that persist over time, Occupational therapy practitioners can provide Supportive, Informative and Educational counseling, as well as crisis intervention to help survivors deal with the consequences of their experience.¹³

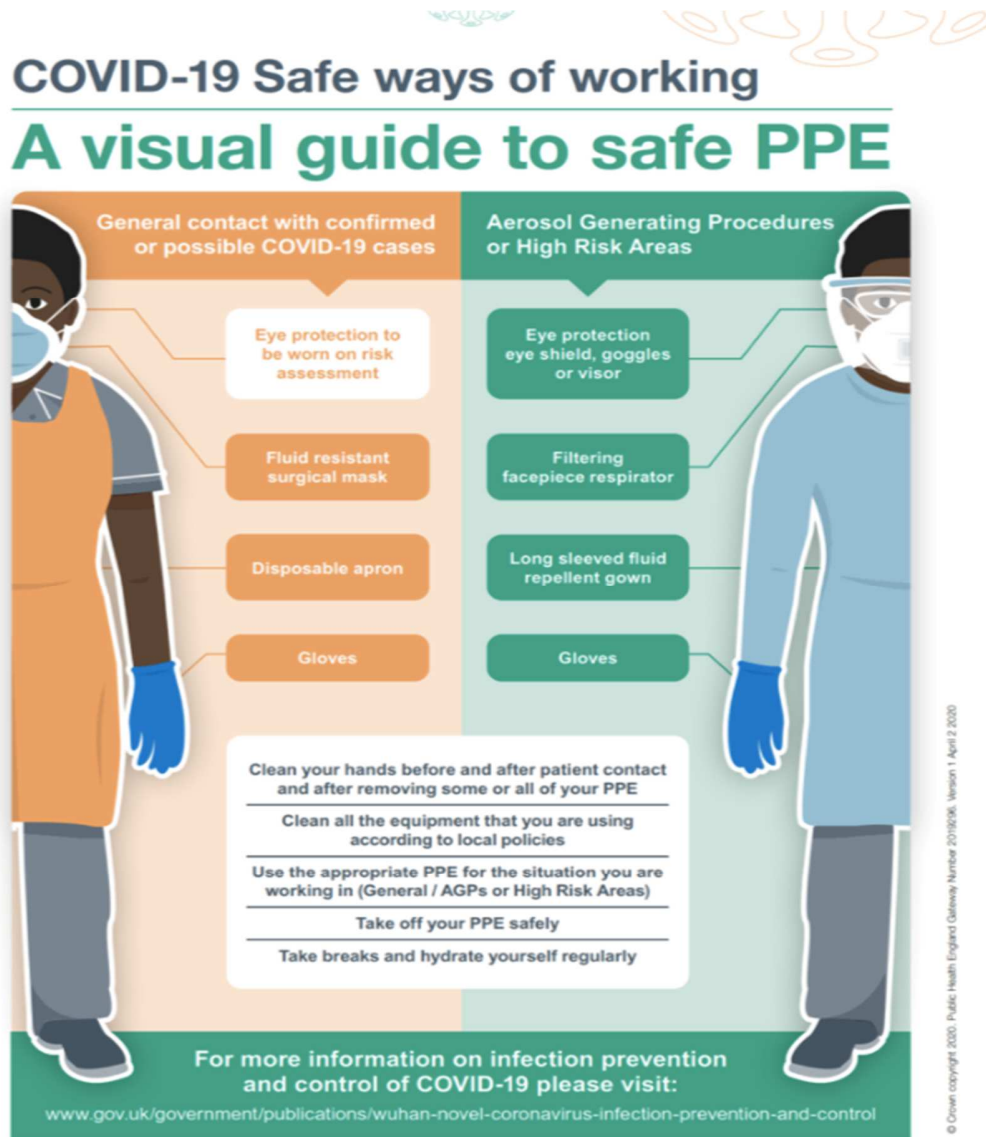
Occupational therapist can help these patients to survive through this stress due to better understanding of personal issues & their relationship with the activity participation & environmental demands.¹⁴

Practitioners have reported experiencing increased moral distress, trying to negotiate what needs to be done for clients while not being able to provide appropriate care.⁴ Hence, Guidelines have focused on appropriate Decision making to plan interventions in COVID patients. Mayo clinic, Academy of Physical therapy recommends an individualized decision tree layout for providing rehabilitation services including physiotherapy & occupational therapy. Some of the guidelines recommend to evaluate appropriateness of Rehabilitation services as per the needs of patients, during the Pandemic and the use of clinical reasoning regarding further management.^{5,7} Whereas Guidelines for Rehabilitation services have prioritized more on stepwise rehabilitation services. As per rehabilitation services census, patients with COVID-19 is low. Therapists assigned to these patients should schedule COVID 19 patients at the end of the day to prevent cross contamination. In case of a surge or higher volume of patients diagnosed with COVID-19, supervisors shall schedule therapists in accordance to patient volumes.⁵ These are some of the crucial considerations of the Decision-Making Directives.

The risk factors are specifically considered in Macmaster university guidelines for Occupational therapists. It provides pointers for determining risk based on the extent of hospital stay, risk of hospitalization. Others too have mentioned risk factors determination, without specific guidelines to weigh the risk. Guidelines have stated Literature that suggested the exposure to patients diagnosed with COVID 19 to be avoided with the susceptible staff suffering from co-morbidities and risk of developing serious illnesses. (Pregnancy, Chronic respiratory illnesses, Immunosuppressed, age \geq 60, Chronic health conditions as Heart disease, Lung disease, Diabetes, Malignancies, conditions, and treatments that produce immune deficiency).⁵

Some guidelines have focused on Provision of Therapeutic Services, specifically considering the different setups in Service provision. AIOTA guidelines are descriptive of different roles of Occupational therapists as Essential service provider, work from home, community worker & academic roles. Different objectives have been stressed for essential service provider. It advises to be in touch with the local bodies & keep daily updates for information regarding care in clinical practice as followed by other health professionals.¹⁵ The Rehab service guidelines, insisted on understanding that the Rehab services cannot start same as before. Occupational Therapist should consider social distancing, providing different timely intervals between appointment slots & sanitization after each appointment.⁷ Administrative services within service provision area to consider staff rotation, documentation, payments can be organized online. Cautious decisions must precede if patient is not coming from Green Zone.¹⁶ Others too have followed the Health care professional's general guidelines during therapeutic service provision.

It is remarkable that all the guidelines documented the importance to therapist's safety directives. Occupational therapist shall comply with personal protection & hygiene measures as recommended by WHO. All the documents have recommended the use of Mask, Hand hygiene, Social distancing, Respiratory etiquettes. Philippines guidelines for Occupational therapists has provided details directives, for respiratory etiquettes including use of special physical barriers masks that blocks large respiratory droplets particles propelled by coughing or sneezing, Coughing & Sneezing into tissue or shirt sleeves and avoid touching eyes nose & mouth. The article recommends hand hygiene with soap & water, hand rubbing through use of alcohol-based hand sanitizers.⁸ Social distancing measures include Telecommuting & replacement of in-person meetings in workplace with video Teleconferences as well as postpone or cancel mass gatherings till indications by department of health. Documents impose use PPE for preventing infection transmission for therapist's protection in acute care.⁷ Therapist shall not access the room for 60 minutes post an aerosolized procedure.⁵ Incorporate Technology through speaking with the bedside nurse and utilize InTouch Inc. or comparable device such as electronic device with HIPPA protection or facility provided phone, to help determine the patient's need for therapy evaluation and intervention prior to entering the room.⁵



Personal Protective Equipment; Donning & Doffing

The above image has been provided in the COVID-19 Guidelines for Rehabilitation Service providers in India⁷



Best Practice: How to hand wash step by step images

Steps 3-8 should take at least 15 seconds.



Adapted from the World Health Organization/Health Protection Scotland
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*Any skin complaints should be referred to local occupational health or GP.

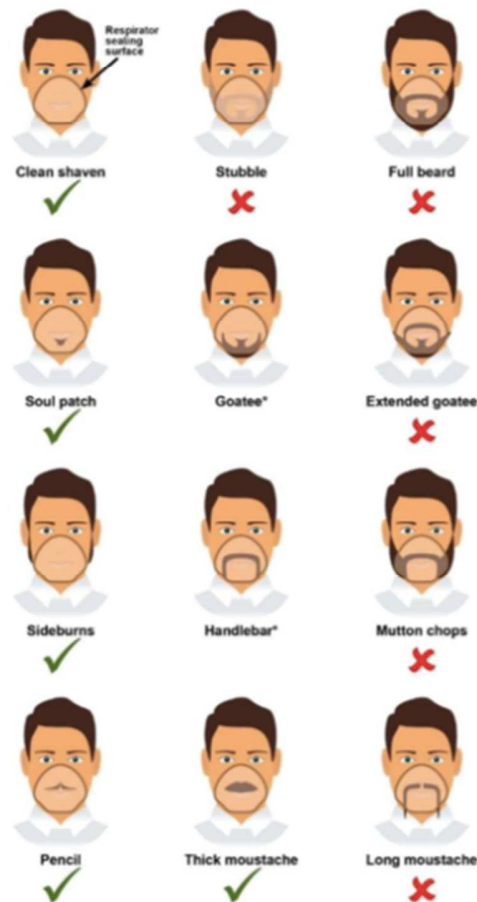
Hand Hygiene Directive

The above image has been provided in the COVID-19 Guidelines for Rehabilitation Service providers in India.⁷

Patient’s safety is considered a priority by all the Guidelines included in the current review. Pre-visit telephonic screening is proposed in AOTA document.

In rehabilitation service guidelines directed Patient’s care must not be compromised in any situation including a use of surgical face mask. It must be markedly noted that the therapy /rehabilitation providing areas wear tolerable & appropriate surgical face mask in symptomatic as well as asymptomatic patients & care givers. Other guidelines have recommended that therapists should consider providing face masks to the patients during therapy.⁷

Facial hair and FFP3 respirators



*Ensure that hair does not cross the respirator sealing surface

For any style, hair should not cross or interfere with the respirator sealing surface. If the respirator has an exhalation valve, hair within the sealed mask area should not impinge upon or contact the valve.

Guidelines for appropriate use of respirator with moustache The above image has been provided in the COVID-19 Guidelines for Rehabilitation Service providers in India.⁷

Care givers safety has been given more consideration in guidelines for rehabilitation services documents, Limitations of entry points, not allowing care givers to come in contact with COVID 19 diagnosed patients, training for care in handling these patients have been stressed in the guidelines. Decisions to suspend or restrict caregivers will depend on local circumstances and risk assessment. Ideally, They must not visit any other rehabilitation or care area⁷

AIOTA guidelines consider the mental health of caregivers along with the patient & recommend to alleviate Boredom, maximize coping skills and promote Relaxation, effective ways to spend their time based on their interest.¹⁵ Perhaps Occupational therapy is a profession that considers Caregiver as an essential part in their services than any other health care profession.

Patient handling directives take special consideration in PWDs handling, transfers on wheel chair, using various equipment, sterilization of equipment used by multiple beneficiaries.^{7,8}

AOTA recommends appropriate prioritization for providing therapy.

Patient care directives identified roles of Occupational therapists in various conditions or sequel related to COVID.¹⁵ In acute care AIOTA gives priority to respiratory reconditioning, positioning techniques, energy conservation techniques, Stress and Anxiety are common symptoms due to ascertain conditions in this pandemic. All the document recommends the Occupational therapists' active role in maintaining the emotional & social wellbeing. Occupational therapist is expertise in configuring physical and psychological environments to maximize function and social integration.¹²

Post care rehabilitation has been stressed on consideration of psychosocial needs, mental health, Social reintegration.^{7,8} AIOTA has recommended the Assessment and management of ADLs to encourage early mobilization, Provision of assistive devices for ADLs, communication, seating and mobility.¹⁵

AIOTA, also considered problems such as loss of skilled jobs, retraining for new jobs or Occupation.¹⁵ Rehabilitation services, Philippines & AIOTA have laid guidelines for cardiovascular conditioning as per WHO recommendations. Psychosocial needs of caregivers too are addressed in Rehabilitation Services Guidelines & touched in AIOTA Guidelines.^{7,8,15}

As proposed in the position paper of Occupational therapy in disaster management, improved Occupational engagement promotes positive well-being and mental health, enabling greater productivity and community resilience. Occupational therapists engaging with disaster and reconstruction policy, planning and coordination mechanisms, contribute pertinent expertise to response & should be the active member in recovery phase.¹²

Patient care Directives also consist of the positions suggested for shortness of breath during activity, emotional excitement, the prevention of primary complication and exposure to adverse weather condition. Make the patient sit with the feet flat on the floor, rest the elbows on the knees or rest the chin on the hands and relax your neck and shoulder muscles. Resting arms on the table and resting the forehead on the forearm or a pillow, are some of the alternative techniques for Sitting. Standing is recommended with both the feet shoulder width apart, Leaning hips against a wall, relaxing shoulders, leaning forward slightly and dangling arms in the front or relaxing the neck and resting the head on the forearms. Patients are asked to lie on his/her side with a pillow between the legs and their head elevated with pillows, while Keeping the back straight or lying on back with head elevated and knees bent, with a pillow under the knees. Therapist may roll the patient to prone into Swimmer's position (elbow in which the head is semi-rotated should be flexed to no more than 90° to avoid ulnar nerve stretch, and the other arm internally rotated by the side). Ensure that women's breasts or men's genitals are not compressed. Place two pillows under each shin to prevent peroneal nerve stretch, positioning them to avoid knee and toe pressure from mattress.¹⁷

Therapy room guidelines are specifically described in rehabilitation services guidelines. The recommendations by WHO are accepted in this document with special emphasis on separate room for donning & doffing of PPE, staff training of using PPE, appropriate disposal system, use of disposable bed covers, perishable items wherever possible and cleaning of beds & rooms after each patient.

Therapy session guidelines given in all documents as preferably one therapist with one patient, limited amount of exposure to patient & therapists, use of Gowns, PPE or masks. Phillipines & AIOTA has also proposed usage of teletherapy whenever possible with caregivers training in assisting in therapy. Further suggesting staff breaks, sterilising equipment after each use etc.

Equipment usage should be restricted. Single use covers or equipment accessories are recommended especially in Rehabilitation service guidelines. Toys, equipment, cutlery used for children must be thoroughly cleaned prior to each use. Rehabilitation services document.⁷ Directives also recommend use of durable equipment, due to possible shortage of accessories of equipment during pandemic. While this Public Health Emergency remains in effect, it must be noted that the suppliers carefully document the delivery date of all Durable Medical Equipment (DME) and state that the signature was unable to be obtained due to COVID-19. Use of Gloves is also recommended while using the equipment is recommended.⁵

All documents strongly recommend use of teletherapy services. Use of iPad, videoconferencing, and instructional videos have been proposed by AIOTA, WFOT & Philippines documents.^{8,12,15} Occupational therapy services may include supervising staff and volunteers making home visits or telephone calls, facilitating support groups designed to reduce anxiety and stress. Occupational therapy practitioners also may provide support for displaced, confused adults and children until their caregivers can be identified and located.

Strict ethical guidelines have been documented for patient handling by occupational therapist the COVID19 pandemic. The process of regular education in Occupational therapy needs to be continued during the Pandemic. WFOT along with AIOTA have formulated smart educational OT plans. The structured plans to conduct classes, use of E-learning is recommended. Detailed plans for developing fundamental, preclinical & clinical skills are given in the document. The consideration for developing clinical skills in absence of direct contacts with the patients has been considered. Use of case-based scenario presentations & active discussions on clinical reasoning has been insisted^{12,15}

Thus, Occupational therapists proposed guidelines including clinical service delivery with the academic considerations. Occupational Therapist is an integral part of Health Care System right from Acute care assisting the other team members in Logistic management, coordinating with stake holders, positioning & handling of COVID positive patients, special care to PWD diagnosed as COVID positive to post COVID 19 rehabilitation phase. Early recovery, alleviation of anxiety & fear, physical endurance, increasing activity participation, maintenance & recovery of emotional & mental illness with other team members, family, caregivers support are some of the important interventions provided by Occupational therapists & are described in the guidelines given by Occupational Therapy & allied bodies, considered in present review.

Mankind is still trying to fathom and understand the signs, symptoms of COVID and the post-COVID sequelae. A growing number of case reports and series describe a wide array of neurological manifestations in many patients, but many have insufficient detail, reflecting the challenge of studying such patients. Most common neurological manifestations seen include Encephalopathy, Guillain-Barré syndrome, dizziness, headache, impaired consciousness, Acute Cerebrovascular disease, Ataxia, Seizures. Anosmia and Ageusia. Some of the patients show acquired weakness and Dysphagia with clinical cranial nerves impairment of lingual, IX, X and XII after SARS-CoV-2 infection. Recognition of neurological disease associated with SARS-CoV-2 in patients whose respiratory infection is mild or asymptomatic might prove challenging.¹⁸

It is proposed to monitor convalescent individuals for potential long-term implications that may include neurodegenerative sequelae such as viral-associated parkinsonism.¹⁹ Attention to neurological deficits in COVID-19 is fundamental to ensure appropriate, timely, beneficial management of the affected patients.²⁰

A Systemic Review revealed that during the acute illness, common symptoms among patients admitted to hospital for SARS or MERS included confusion in 27.9% of 129 patients), depressed mood (32.6%; 129), Anxiety (35.7% of 129), impaired memory [34.1%; 129), and Insomnia [41.9% of 129). Steroid-induced Mania and Psychosis were reported, whereas similar number of patients had Insomnia, irritability, memory problems, early fatigability in the span of 3-5 months. Some patients reported delirium during acute phase, which recovered in the later phase.²¹

Further Recommendations can be included in COVID -19 Occupational therapy guidelines in the patient Service directives as: -

- **Managing Stress, Anxiety symptoms:**
Yoga, relaxation, instilling positive thinking, as recommended by WFOT guidelines. Further can be added as Visual imagery, Autogenic relaxation, Meditation.²²
- **For managing Anxiety, Depression:**
 - ⇒ Behaviour modification techniques
 - ⇒ Lifestyle modification techniques
 - ⇒ Incorporating wellness behaviour training
- **For managing the Early Fatiguability & Breathing difficulties** –Various aspects such as
 - ⇒ Energy conservation technique
 - ⇒ Teaching dyspnoea control postures, which may ease difficulties faced in basic activities of daily living such as bathing toileting etc.²³
 - ⇒ Training for use various breathing patterns during functional activities such as pursed lip breathing for shortness of breath, diaphragmatic breathing during exertion, use of effective exhalation during exertion & lifting weights, using exhalation during bowel movements
 - ⇒ Muscle relaxation & use of biofeedback for reducing early fatiguability
 - ⇒ Consideration of energy cost during activity recommendation as per MET values
 - ⇒ Time management technique-balance between Rest & Instrumental ADLs.
 - ⇒ Lifestyle modifications by adapting client centred realistic performance patterns
 - ⇒ client & family Education²³
- **For Feeding and Swallowing Dysfunctions**
 - ⇒ facilitation of Positioning
 - ⇒ Improve motor Functions
 - ⇒ Appropriate Breathing techniques to prevent aspiration
 - ⇒ Reestablishment of oral eating to safest & optimum level on least restrictive diet. ²⁴
 - ⇒ Diet progression depending on oral motor functions
- **Since Cognitive impairment** can be temporary and may become chronic dysfunction due to probable neurological complications. Various approaches may be used such as *Global Strategy Learning and Awareness Approaches, Domain-Specific Strategy Training* (use a personal digital assistant (PDA). Thus, Occupational Therapy intervention strategies are crucial in providing patient care guidelines. These include:
 - ⇒ Wellness behaviour training
 - ⇒ Use of various sensory inputs with positive feedback, graded activities
 - ⇒ Task specific training
 - ⇒ Reality orientation activities
 - ⇒ Following consistent daily routines
 - ⇒ Compensatory strategies- adaptations for perceptual deficits such as pictorial clues, use of cognitive behavioural techniques, dividing tasks in various steps.

- ⇒ Environmental modifications & *use of Assistive Technology* - Use of environmental aids such as appointment books, diary for daily functions, client specific new environmental clues.
- ⇒ Family-centred care has been the domain of Occupational Therapy practice. It is a partnership approach to health care decision-making between the family and health care provider. Educating family members regarding patient's impairments or affectations, current status, prognosis along with post COVID-19 precautions, could be essential in transparency in Service provision and would also help the family in coping with the stress associated to the same.²⁵
- **Return to work** is a crucial aspect in adults, post COVID-19 infection:
 - ⇒ Consideration of maintaining Job skills from Sub-acute phase
 - ⇒ Advice about Work simplification, environmental modifications, habit training.²⁶
- **In Older adults**
 - ⇒ Use of coping skills
 - ⇒ Training for safety maintenance
 - ⇒ Encouraging social participation²⁷

The current review does not consist of every Guideline available for Occupational Therapy Practice during the COVID-19 Pandemic, due to lack of accessibility to the same. The Review also does not provide a conclusive ranking of the various Guidelines that have been considered above.

Implications

Guidelines can be effectively used by Occupational Therapy professionals practising in government or private institutions. The COVID-19 Pandemic is a unique health crisis. Further recommendations suggested in the present article may provide additional directives after identification of the new symptoms & post COVID sequelae. This may guide the prevention strategies for maintenance of health & functioning in COVID -19 patients ,through occupational therapy comprehensive services . Future documentation of guidelines by the Government or other Authors may give more clear directions to the professionals for safe & more effective services.

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