

Occupational Therapy Guidelines & Recommendations for Adults Hospitalized with COVID-19 in Acute Setting

Introduction:

The newly discovered Coronavirus disease (COVID-19) is a respiratory infectious disease which was first identified in December 2019 in China, has made a devastating impact disrupting global equilibrium of sustainable development and meaningful occupations that define the lives of millions of people worldwide. The most common symptom of COVID-19 are fever, shortness of breath, loss of appetite, fatigue, loss of smell and taste, and dry cough. Complications may include development to pneumonia, and death in some cases. The current mortality rate is 3 to 5%, with new reports of up to 9%, comparison to influenza which is around 0.1%. The rates of admission of patients with COVID to an intensive care unit (ICU) are approximately 5% while 42% of patients with COVID19 admitted to hospital will require oxygen therapy. This population need special care, which includes medical and allied health care. Occupational therapy (OT) has significant role for some patients with or recovering from COVID19. It may involve actions of prevention, promotion, protection, education, intervention and rehabilitation of the patient to prevent deformities, dysfunctions and physical and/or psychosocial and affective problems therefore, occupational therapists have a vital role to play in addressing the debilitating effects of COVID-19. By offering a personalised and occupation-focused approach to care, they support the recovery of people experiencing functional challenges arising from the virus and its treatment, especially where treatment has been received in an Intensive Care Unit (ICU).

Purpose:

This document has been prepared to provide information to occupational therapist in acute care healthcare facilities about the potential role of occupational therapy in the management of hospital-admitted patients with confirmed COVID-19. Due to the presence of the new Corona virus, there are no clear treatment methods for this disease, and accordingly this guideline will unify and facilitate occupational therapist management of COVID 19 patients from their own perspective including the treatment methods.

Aim and Scope:

General Administration for Medical Rehabilitation and Extended Care in the Ministry of Health (MOH) in Saudi Arabia had issued this document to clarify the role of occupational therapy for confirmed cases of COVID19 patients in the acute hospital setting in MOH. These guidelines provide fundamental information for occupational therapists for treating adults with confirmed COVID-19 diagnosis in the acute hospital setting including screening to indications, services of occupational therapy and appropriate personal protection measures policy for the practitioners. The guideline does not address dealing with COVID 19 paediatric patients

Setting:

ICU and medical wards in the of MOH hospitals in KSA.

Methodology:

Topic and objectives were set by a group of expert's members of the General directorate of medical rehabilitation and long term care MOH, members agreed that un urgent guidance is need for occupational therapist practice and care for COVID 19 patients is needed and review of available guidelines and recommendation were gathered by the author followed by a review from a group of experts.

Target Audience:

Occupational therapists who are workings in the intensive care unit (ICU) and medical wards and, are caring and providing therapy services for adult patients with COVID-19.

Target population:

Inclusion criteria

Patients with confirmed COVID19 and Admitted for ICU or medical wards in the hospitals and who would benefit from occupational therapy intervention this may including: upper limb dysfunction, activity of daily living (ADL) impairments and difficulties due to isolation, Orthotics requirements, cognitive deficits, posture and balance impairment, and mental health issues.

Exclusion criteria

Mean arterial pressure <65, >110, normal MAP = 70-90 mmHg.	Requiring FiO2 >50% during non-invasive ventilation.
Systolic BP >180 mmHg, >20% decrease in Systolic BP/Diastolic BP; orthostatic hypotension.	positive expiratory pressure
Heart rate <40, >130 beats/min, >20% decrease in resting HR.	High sedation level, Richmond Agitation-Sedation Scale ≤-3
Respiratory rate >40 breaths/min.	Evidence of elevated intracranial pressure.
Patient refusal	Active gastrointestinal blood loss.
Patient-ventilator asynchrony	Active myocardial ischemia.
High fever	Patient with intolerable dyspnoea on exertion
Pulse oximetry <93% on oxygen therapy or Blood oxygen saturation: < 90%.	Insecure airway (device)
Positive end expiratory pressure (PEEP)/continuous positive airway pressure (CPAP) >10 cm H2O.	Respiratory distress or chest tightness.

arterial hypertension, brady-or tachycardia	Dizziness, headache, or unclear vision.
Inability to keep balance.	Active bleeding.

Goal of occupational therapy services and interventions to patients diagnosed or recovering from COVID19 would include the following

- 1- To Increase individuals' skills and levels of independence.
- 2- To support and promote the use of meaningful activities in daily life.
- 3- To improve quality of life.
- 4- To improve the health and social wellbeing with short and long-term disabilities.
- 5- To prevent further limitations, and physical and cognitive complications resulting from COVID19
- 6- Facilitate safe discharges from hospital.

Section 1: referral system

Patients with COVID19 are referred to occupational therapy by a Rehabilitation Medicine physician. After the referral, the occupational therapist will review the eligibility of the patient condition as per criteria mentioned above and select the suitable intervention depend on patient needs.

Section 2: Considerations prior to occupational therapy interventions.

Occupational therapists should consider the following points before starting the intervention services.

2.1	Understanding the mechanism of infection of COVID-19 and adhering to personal protective equipment and safety.
2.2	If any of the exclusion criteria occurs during session, the therapist must stop the session and inform the nurse in charge.
2.3	The therapist should avoid going inside patients' isolation rooms regularly.
2.4	Therapist should keep a safe distance from patients (2 meters) if there is no intervention by hand, such as educational session.
2.5	The therapist should allow short breaks as needed during sessions in order to give patient a chance to recover.
2.6	Patient must be educated about breathing pattern during activities to assist in improving patient's ventilation.
2.7	It is important to maintain good nutrition and hydration for patient before session.

2.8	Use the Borg Rating of Perceived Exertion Scale after each activity during session to help how hard understand patient's preserved exhaustion.
2.9	Determine if the risk of spreading COVID-19 outweighs the risk of deferring occupational therapy service.
2.10	Session should be provided one-to-one in patients' rooms.
2.11	Start with light activities and gradually increase.
2.12	Do as much as possible without direct patient contact.
2.13	Work with the family and keep them informed of regarding the services and interventions that will be provided.
2.14	Occupational therapist must have a general understanding of the lines and tubes they may encounter in the ICU to assure the safety of their patients and themselves.
2.15	In ICU, the therapist must consult the medical team before starting the intervention.

Section 3: Occupational therapy intervention for adult with confirmed COVID19.

3.1	Training of the skeletal muscle and the maintenance/recovery of the activities of daily living are contraindicated in acute phase.
3.2	Evaluation and assessments include: Subjective assessment: Basic medical and social, functional history, equipment Objective assessment: functional independence and factors impacting their ADLs and functional mobility, muscle tone, Range of motion, sensation, coordination, and respiratory status.
3.3	Consider Risk assessment for step-down to ward, particularly for individuals with delirium, agitation or inability to communicate or call for help.
3.4	Consideration should be taken in terms of length of treatment time, amount and speed of active movement, level of assistance given, adaptive aids, and position and postural support.
3.5	The patient's level of activity can be upgraded only when vital signs, symptoms, and respiratory function are acceptable at the existing level of activity.
3.6	To help the patients come off the ventilator by giving them short treatment sessions interspersed into their daily schedule.
3.7	Intensity of session should not be hard leading to high breathing effort.
3.8	Monitoring specially vital signs should continue throughout the session to assess tolerance.
3.9	Equipment should be preserve in isolation room for utilize of one Covid19 patient.

3.10	Extra care must be taken for patient with mechanical ventilation to maintain ventilator circuit during session and ensuring airway security is maintained.
3.11	Therapist should focus on energy conservation and work simplification during activities to reduce unnecessary oxygen expenditure by - Planning and organizing daily routine and tasks. - Use appropriate equipment to simplify activities - Work with appropriate pacing - Avoid inappropriate posture that may affect breathing - Use of correct body mechanics.
3.12	Therapist should consider relaxation and stress reduction techniques.
3.17	Intervention should focus in addressing the following -personal care and hygiene i.e. Toileting, grooming and showering etc. - remove personal devices - Self-Feeding - compensatory and adaptive equipment as required - Communication management i.e. use phones , written tools, key board,...etc - leisure participation if applicable
3.18	Postural management Including: - Transfers i.e. the bed to a chair, sitting up in a chair -Posture instructions for optimal functional performance and energy - Patient and family education on bed and chair positioning regimes - Optimize bed and seating positioning using pressure relief principles e.g., mattress. -wheelchair

3.19	Upper limb rehab depending on the case this may include: -Therapeutic exercise and activities. - Joint protection -Sensory re-education -Mirror therapy -Tapping techniques. -manual therapy. - Orthotic fabrication, and fitting ensuring no loss of range of motion (ROM) or skin integrity
3.20	Cognitive interventions including: -Reorientation - Training of specific abilities. - Metacognitive abilities. -social abilities. -Training in specific tasks.
3.21	Home assessment and adaptations modification, this would including: - Providing recommendations according to current level of function and/or on going needs. - Provision of assistive equipment to facilitate mobility, encourage independence and ensure safety. - Family education and training to assist with ROM exercises, safe transfers and mobility, and skin integrity checks. - advice and education on and safe return to work - Educate patient, family, and careers regarding post-COVID-19 fatigue, psychological and cognition changes and breathlessness. - Preparation and planning for discharge, including risk assessment if patient is to be discharged with artificial airway or non-invasive ventilation

Section 4: infection control measures for occupational therapist

4.1	All occupational therapist must be trained for correct donning and doffing of Personal Protective Equipment.
4.2	Droplet precautions should be implemented.
4.3	Airborne precautions must be followed, including: N95/P2 mask, fluid-resistant long-sleeved gown, eye protection or face shield, gloves, hair cover, shoes cover.
4.4	Fit mask testing is an essential part of planning.
4.5	Therapists must wear personal protective equipment during the duration of exposure to potentially contaminated areas.
4.6	It is recommended that therapists change their scrubs before leaving the health care facility and keep them in a bag for washing.
4.7	All personal items i.e. earrings, watches, mobile phones, pens should be away before entering the isolation area of the patient with COVID-19.
4.8	Must comply with hand hygiene pre and post entering the isolation room and frequently perform hand hygiene after removing gloves.
4.9	If patients are placed into open rooms in ICU, staff working within the borders of the ICU but not directly in-contact with inpatient care should wear Personal Protective Equipment.
4.10	Staff must use plastic aprons, a change of gloves and practice hand hygiene in between patients in open areas.
4.11	Avoid sharing equipment and transferring between infectious and non-infectious areas, Preferably, use single-use equipment
4.12	Carefully consider equipment use and discuss with infection control services to ensure it can be properly decontaminated.
4.13	Any extra items such as a stethoscope, pulse oximeters taken into a room must be disinfected.
4.14	a sealed plastic bag should be used by patient when coughing to avoid virus transmission.
4.15	Use a waterproof apron for procedures with expected high fluid volumes that might penetrate the gown.
4.16	As possible, minimize the times of entry and exit during sessions.
4.17	As possible, minimize touching the surfaces in a patient environment.
4.18	Therapist who is expected to be vulnerable must not enter the COVID-19 isolation section i.e. pregnant, immunity deficiencies, +60 years of age, chronic health and respiratory conditions.

Limitation and recommendations:

The limitation to these guidelines include the following: it may change over time as we learn more about COVID-19 and its impact on human physiology and performance. Furthermore, and the short timeline in producing. The document Therefore, we plan to conduct a formal, scoping review of the COVID-19 literature, as it relates occupational therapy practice in next 6 months

Declaration of conflict of interests:

NONE

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