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Approval Process

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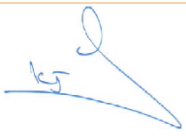
Approved by	Dr. Kadhim Jaffar Sulaiman	DG of SMC	Ministry of Health	October/ 2020	

Contents Table:

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Acronyms:

HOD	Head of Department
MOH	Ministry of Health
MRS	Medical Rehabilitation Services
SLP	Speech and Language Pathologist/ Speech and Language Pathology
NGT	Nasogastric tube
GCS	Glasgow Coma Scale
NPO	Nil Per Oral/ nil per mouth
FEES	Fibre-Optic Endoscopic Evaluation of Swallowing
OME	Oral Musculature Examination/ Oral Musculature Exercises

Procedure of Speech and Language Pathology for Stroke Rehabilitation

1. Introduction

Speech and Language Pathology (SLP) or less formally known as Speech Therapy, is a field of expertise concerned with communication and swallowing. A speech and language pathologist (SLP) is a clinician with special training in studying the skills of speaking, understanding and using language as well as swallowing and voice functions in people. Studies have shown that around a third of stroke survivors will have some sort of communication difficulties and at least 40 per cent will experience a swallowing difficulty post stroke. SLPs work closely with stroke patients to diagnose the nature of their difficulties, manage the difficulties in order to minimize the impact of these difficulties and impairments on the patient's everyday life. Evidence-based guidelines, such as this document, help standardize care and promote best clinical practice of stroke patients.

2. Scope

This document sets a standard for all SLPs working in the rehabilitation of stroke patients in different governmental institutes around the Sultanate of Oman.

3. Purpose

This document aims to standardize the SLP care of stroke patients

4. Definitions

4.2 Dysphagia: Difficulty in the process of getting food from the mouth to the stomach including difficulty in chewing food, initiating the swallow, coughing and/or chocking. Dysphagia can lead to weight loss, dehydration, chest infections or even death.

4.3 Aspiration Pneumonia: Chest infection or swelling due to inhaling food, drinks and/or saliva

4.4 Oral hygiene: The practice of keeping the mouth clean and healthy by brushing the teeth and caring for dentures and gums.

4.5 Aphasia: A language impairment affecting around a third of people with stroke. Patients with aphasia may have difficulty in understanding language, retrieving words, forming clear sentences, engaging in conversation, reading and/or writing.

4.6 Dysarthria: A neurological motor speech disorder that is caused by muscle weakness. Dysarthria can include slow, weak, imprecise and/or uncoordinated movements of the speech muscles. Dysarthria can also affect respiration, pitch, loudness and phonation.

4.7 Apraxia of speech: A programming difficulty in which the patient has difficulty generating muscle programs and organizing muscle movements resulting in difficulty with speech and intelligibility.

5. Procedures

5.2 Referral

5.2.1 Stroke survivors with swallowing and/or communication difficulties should be referred to SLP within 24 hours of admission.

5.2.2 Unstable, critical and/or patients with low GCS score (9 or less) should only be referred once they improve and regain appropriate consciousness level.

5.2.3 SLPs should only assess and manage stroke survivors after receiving a documented referral.

5.3 Assessment

5.3.1 Stroke patients with a referral to Speech and Language Pathology should be assessed by a qualified SLP within 24-72 hours of referral.

5.3.2 Stroke patients that are unstable, critical and/or have low GCS score (9 or less) should have their swallowing and communication skills assessed once they improve and regain appropriate consciousness level.

5.3.3 Stroke patients should have their swallowing and communication skills screened by a trained healthcare professional using a valid and reliable assessment tools.

5.3.4 Patients with swallowing and/or communication difficulties should have a thorough assessment of their skills carried by a qualified SLP.

5.3.5 Formal assessments of communication should be administered whenever it is available and appropriate to use considering cultural and environmental factors.

5.4 Amount, intensity and timing of rehabilitation

5.4.1 SLP rehabilitation services should be established as soon as it is deemed needed and tolerated by the patient.

5.4.2 For stroke patients with swallowing and/or communication difficulties, SLP should be provided two hours per week for the first six months post stroke.

5.4.3 Stroke patients that are under SLP rehabilitation care and their families/carers should be educated, trained and encouraged to complete regular home program and practice provided by the SLP.

5.5 Dysphagia

5.5.1 Referral and Assessment

5.5.1.1 Patients presenting with acute stroke should be kept Nil Per Oral (NPO) until they have their swallowing screened using a validated tool by a trained healthcare professional within four hours of arrival at hospital.

5.5.1.2 Patients who fail the swallowing screening or deteriorate during hospitalisation should be referred and assessed by a qualified SLP and be considered for alternative feeding method (such as Nasogastric tube NGT) until seen by the SLP.

5.5.1.3 Patients who fail swallowing screening and those feeding via alternative feeding methods should have a comprehensive swallowing assessment and be considered for instrumental assessment if needed.

5.5.1.4 Dysphagia assessment should only be carried by a qualified SLP

5.5.1.5 Instrumental assessments such as video fluoroscopy and fibre-optic endoscopic evaluation of swallowing (FEES) should only be administered by a qualified SLP with post graduate training in dysphagia.

5.5.1.6 Gag reflex should not be considered as a valid measure in swallowing screening and assessment.

5.5.2 Management

5.5.2.1 Stroke patients with dysphagia should receive SLP rehabilitation services with appropriate intensity and frequency as early as possible.

5.5.2.2 Stroke patients with dysphagia should receive appropriate clinical rehabilitative services by a qualified SLP including texture modifications of food and drinks, compensatory strategies (postural and/or

manoeuvres), restorative strategies (e.g. shaker exercise), sensory modification based on assessment results.

5.5.2.3 Stroke patients with dysphagia should be considered for swallowing exercises, neuromuscular electrical stimulation, pharyngeal stimulation, thermal stimulation, and transcranial direct current or magnetic stimulation with feasibility and therapist qualification consideration.

5.5.2.4 Electrical stimulation should only be delivered by an SLP with post graduate training and experience.

5.5.2.5 Stroke patients taking modified diet should be reviewed regularly to reduce risk of dehydration and malnutrition.

5.5.2.6 Stroke patients already under SLP care and noted with continued weight loss, dehydration and/or recurrent chest infections should be reviewed urgently and be considered for NGT feeding until seen by a qualified SLP.

5.5.3 Nasogastric Tube (NGT)

5.5.3.1 NGT tube should be inserted, managed and removed by a trained healthcare professional.

5.5.3.2 NGT tube should only be removed once a safe oral feeding is established and after patient is assessed by a qualified SLP.

5.5.3.3 Families/carers of stroke patients feeding via NGT tube should be trained and educated on feeding the patient and caring for the NGT tube before the patient is discharged from the hospital.

5.5.3.4 Stroke patients discharged from hospital with NGT tube should be followed by a qualified SLP at the most convenient healthcare facility where SLP is available.

5.6 Oral Hygiene

5.6.1 All patients with dysphagia or NGT tube should receive appropriate oral hygiene and dental care to reduce risk of aspiration pneumonia.

5.6.2 Families/carers of stroke patients with dysphagia should be trained, educated and encouraged to provide the patient with daily oral hygiene.

5.7 Communication

5.7.1 Aphasia

5.7.1.1 All stroke patients should be screened by a trained health professional for possible aphasia

5.7.1.2 Patients with suspected aphasia should receive a thorough assessment to diagnose and differentiate their difficulties

5.7.1.3 Assessment results and provisional diagnosis should be documented appropriately and communicated to the patient, family/carers and the multidisciplinary team

5.7.1.4 Patients with aphasia should receive therapy as early as patient is deemed ready by the SLP to improve efficient communication

5.7.1.5 Patient with aphasia should receive frequent and regular therapy sessions in the first four months post stroke

5.7.1.6 Alternative means of communication such as writing, drawing, augmentative and alternative communication devices should be considered and used as early as needed when appropriate

5.7.1.7 For people with aphasia and those with chronic aphasia, group therapy sessions can be used whenever available and appropriate for the patient.

5.7.2 Dysarthria

5.7.2.1 Patients with unintelligible or unclear speech should be assessed by an SLP to diagnose the problem and explain to the patient and their families/carers the nature of patient's difficulties

5.7.2.2 Patients with dysarthria should receive regular and intensive therapy in the first six months post stroke including any or several of the following:

5.7.2.2.1 Biofeedback or a voice amplifier to change intensity and increase loudness.

5.7.2.2.2 Intensive therapy aiming to increase loudness (e.g. Lee Silverman Voice Treatment).

5.7.2.2.3 The use of strategies such as decreased rate, over-articulation or gesture.

5.7.2.2.4 Oral musculature exercises (OME).

5.7.2.3 For patients with severe dysarthria, communication aids such as writing, drawing, augmentative and alternative communication devices should be considered based on availability and appropriateness.

5.7.2.4 Communication partners for patients with severe dysarthria should be counselled and trained on how to help the patient in their communication.

5.7.3 **Apraxia of Speech**

5.7.3.1 Patients with suspected apraxia of speech, should receive a comprehensive assessment by a qualified SLP.

5.7.3.2 Patients with apraxia of speech should receive therapy that can target articulatory placement and transitioning, speech rate and rhythm, increasing length and complexity of words and sentences, and prosody including lexical, phrasal, and contrastive stress production based on difficulties and goals of therapy.

5.7.3.3 Communication partners for patients with severe apraxia of speech should be counselled and trained on how to help the patient in their communication.

5.8 Fatigue

5.8.1 Therapy for stroke patients with fatigue should be provided at times of the day where the patient is less fatigue.

5.9 Counselling and Education

5.9.1 The SLP should discuss assessment results and the nature of patient's difficulties with the patient, patient's family/carers and the multidisciplinary team.

5.9.2 Counselling and education should be provided to patients and their families/carers whenever is needed and appropriate in a way that is tailored to their language and background.

5.9.3 The SLP should train patients and their families/carers on strategies and techniques that should help improve the patients swallowing and/or communication skills.

5.10 Documentation

5.10.1 SLPs should document all assessments notes and results in a manner that is approved by the Ministry of Health (MoH).

5.10.2 Provisional diagnosis of patient's difficulties and impairments should be clearly documented whenever applicable.

5.10.3 The SLP should define and document therapy goals. These goals should be client-centred, identified in collaboration with the patient and their families/carers, regularly reviewed and updated.

5.10.4 Patient progress notes should be documented regularly in a manner that is approved by MoH.

6. Responsibilities

6.1 Speech and Language Pathologists are responsible for:

6.1.1 Reading, understanding and complying with the guideline.

6.1.2 Request needed tools to ensure appropriate assessment of swallowing and communication skills of stroke patients.

6.1.3 Acknowledge SLP's strength and weaknesses in the field of assessing and managing stroke patients.

6.1.4 Seek continuing education and training in assessing and managing stroke patients and be up-to-date with international stroke managing techniques.

6.1.5 Work in collaboration with the multidisciplinary team whenever possible and appropriate.

6.2 Medical doctors are responsible for:

6.2.1 Understanding the role of SLP in caring for stroke patients.

6.2.2 Referring patients to SLP within the proper time-frame to ensure early intervention of stroke survivors.

6.3 Rehabilitation Department Head of Department are responsible for:

6.3.1 Ensure delivering the guideline to all SLPs working with stroke patients.

6.3.2 Ensure the guideline is properly followed by the SLPs.

6.3.3 Assist in providing the required assessment tools and therapy materials to the SLP working with stroke patients.

7. Document History and Version Control

Document History and Version Control			
Version	**Description of Amendment**	**Author**	**Review Date**
01	Initial Release	Samira Al-Habsi	October/ 2023

Written by	**Reviewed by**	**Approved by**
Samira Al-Habsi	National Speech and Language Taskforce For Policeis & Guidelines devlopment	Dr.Kadhim Jaffar Sulaiman

8. Related Document

There is no related document for this procedure.

9. References

Title of book/ journal/ articles/ Website	Author	Year of publication	Page
After A Stroke: Speech and Language Pathology	Comprehensive Stroke Center University of Michigan Health System	2016	
Clinical Guidelines for Stroke Management	National Stroke Foundation	2017	
Clinical Guidelines for Stroke Management 2017. Summary – speech pathology	Stroke foundation	2017	
Evidence-based guidelines and clinical pathways in stroke rehabilitation – an international perspective	Thomas Platz	2019	
National clinical guideline for stroke	Royal college of physicians	2016	
Speech and language therapy after stroke	Stroke association	2012	