Chapter 1
Development of a Protocol for Dysphagia Management in ICU Adults Integrating Speech Therapy and Multidisciplinary Approaches

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ABSTRACT

Dysphagia is a common and serious complication in critically ill patients in Intensive Care Units, typically following prolonged intubation or mechanical ventilation. It is linked to dehydration, malnutrition, and aspiration pneumonia, prolonging hospitalization and impairing quality of life. Despite affecting up to 60% of this population, dysphagia remains underdiagnosed due to limited screening and the absence of standardized management protocols. This chapter presents an evidence-based protocol for ICU dysphagia management, integrating clinical and instrumental assessment methods. Bedside screening enables early identification of swallowing deficits, followed by targeted instrumental examinations such as FEES or VFSS when required. The framework supports individualized therapy planning

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led by speech-language therapists within a multidisciplinary team. Implementing this standardized approach may reduce complications and costs, while improving safety, recovery, and overall quality of dysphagia care in critical settings.

1. INTRODUCTION

Feeding and swallowing constitute essential physiological processes that are inherently safe, efficient, and pleasurable. These functions play a critical role not only in maintaining systemic homeostasis but also in facilitating social participation and significantly enhancing overall quality of life. Recent studies highlight ICU-acquired dysphagia's impact across age groups, with pediatric cohorts showing 29% prevalence post-extubation, linked to prolonged intubation (>7 days) and extended PICU stays (up to 27 days longer), emphasizing neuroplastic differences versus geriatric presbyphagia. A 2025 narrative review confirms 3-62% incidence in adults, with persistent deficits mirroring neurodevelopmental patterns in young patients, underscoring lifespan surveillance needs (Bertschi et al. 2025).

Pediatric ICU cohorts demonstrate 29% post-extubation dysphagia prevalence, with >7-day intubation delaying suck-swallow-breathe maturation by 21-27 days versus adult muscle atrophy patterns. NICU sensory deprivation induces chronic oral aversion in 35% of preterm infants, contrasting geriatric presbyphagia and necessitating lifespan-differentiated protocols (da Silva et al. 2023).

Dysphagia is defined as the delayed or misdirected transfer of saliva, food of any consistency, and/or medication from the oral cavity to the stomach, increasing morbidity and mortality rates (McCarty and Chao 2021; Papadopoulou et al. 2013). It is observed in all age groups and can occur at any stage of swallowing (Hamdy et al. 1998; Meuret, Dietz, and Fuchs 2014). It is listed under code MD93 in the International Classification of Diseases (ICD), 11th revision (Bertschi et al. 2025).

The normal swallowing process is a complex neuromuscular, dynamic, semi-autonomous, sensory-kinetics, cognitive function regulated by the central nervous system, involving coordinated sensory and motor pathways and significant cortical activation, as demonstrated by recent neuroimaging studies (Cheng et al. 2022; Ludlow 2015). Various conditions can disrupt this intricate mechanism, leading to dysphagia, particularly in ICU patients where the underlying pathophysiology remains poorly understood and optimal management strategies are still debated (Brodsky, Nollet, et al. 2020; Zuercher et al. 2019). Accurate diagnosis and multidisciplinary intervention are therefore essential priorities in dysphagia care.

ICU-acquired dysphagia manifests in up to 60% of critically ill adults post-prolonged endotracheal intubation, precipitating adverse sequelae including aspiration pneumonia, malnutrition, protracted mechanical ventilation dependence, and