

# FACTORS INFLUENCING TIME TO ORAL INTAKE IN INPATIENT REHABILITATION FOLLOWING ABI

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## Primary objective

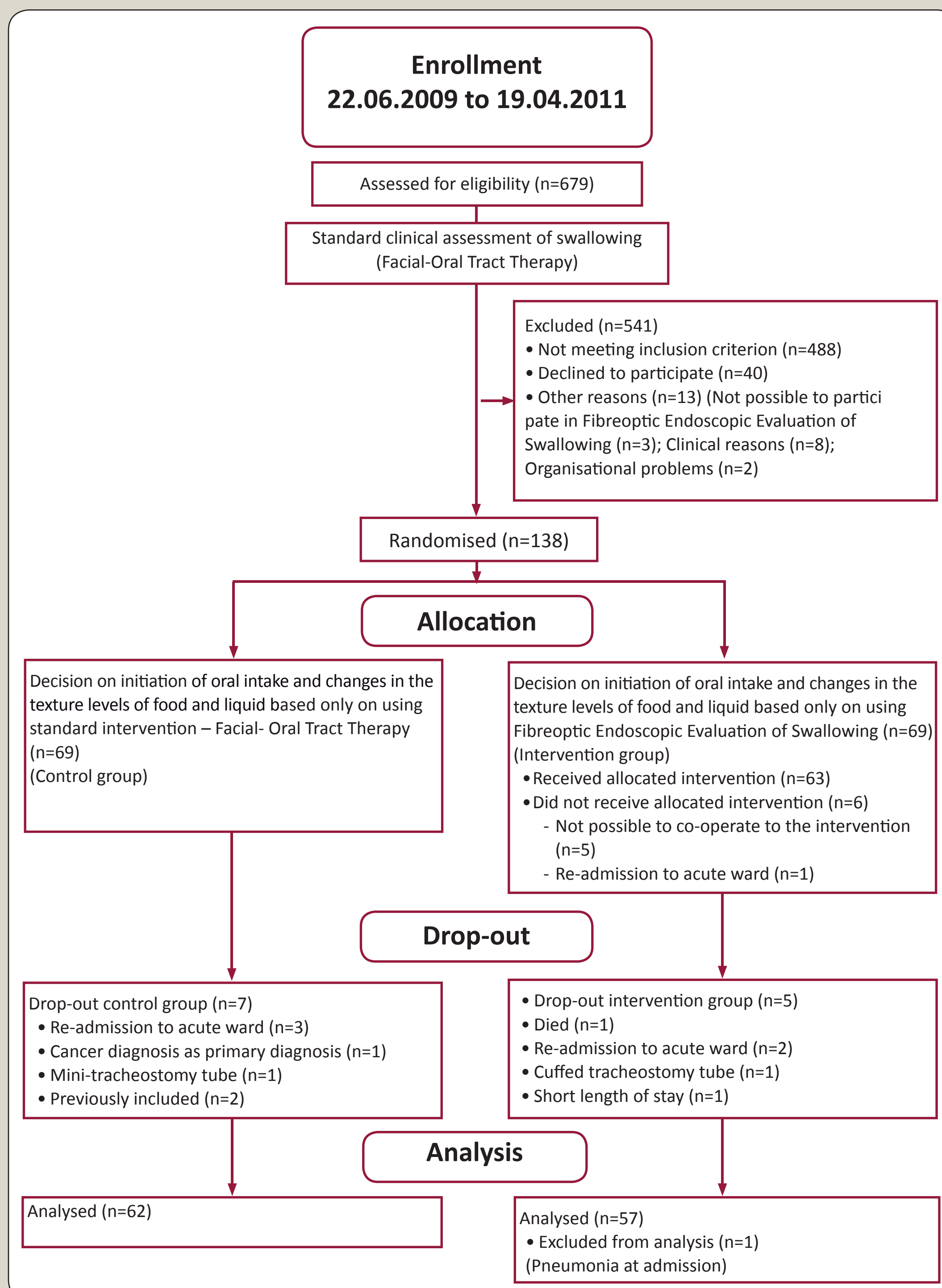
To investigate if differences exist in time to recovery of total oral intake in inpatient neurorehabilitation of patients with acquired brain injury (ABI) assessed using Facial-Oral Tract Therapy (F.O.T.T.<sup>®</sup>) or using Fiberoptic Endoscopic Evaluation of Swallowing (FEES).

## Introduction

Dysphagia may result in the lack of oral intake, malnutrition, and dehydration. It is associated with a prolonged period of rehabilitation. Among ABI patients in inpatient rehabilitation programmes (IRP), the incidence of clinically diagnosed dysphagia ranges from 27-93%. Oral feeding appears to be an accurate prognostic index of the final outcome in severe traumatic brain injury and one treatment goal in IRP is reestablishment of oral intake while maintaining adequate nutrition and preventing aspiration.

## Methods

One hundred and nineteen patients with dysphagia in IRP were randomised to either F.O.T.T.<sup>®</sup> or FEES.



*The inclusion criteria:* anamnestic information on swallowing difficulties from the acute hospital (e.g., need for feeding tube or modified consistencies of food or liquid), stable vital functions, and informed or surrogate consent.

*The exclusion criteria:* full oral intake at admission without the need for feeding tube or modified texture of food and liquids, previously known dysphagia, cancer diagnosis, pneumonia at admission, tracheostomy tube at admission, or under 18 years of age.

## Study assessments

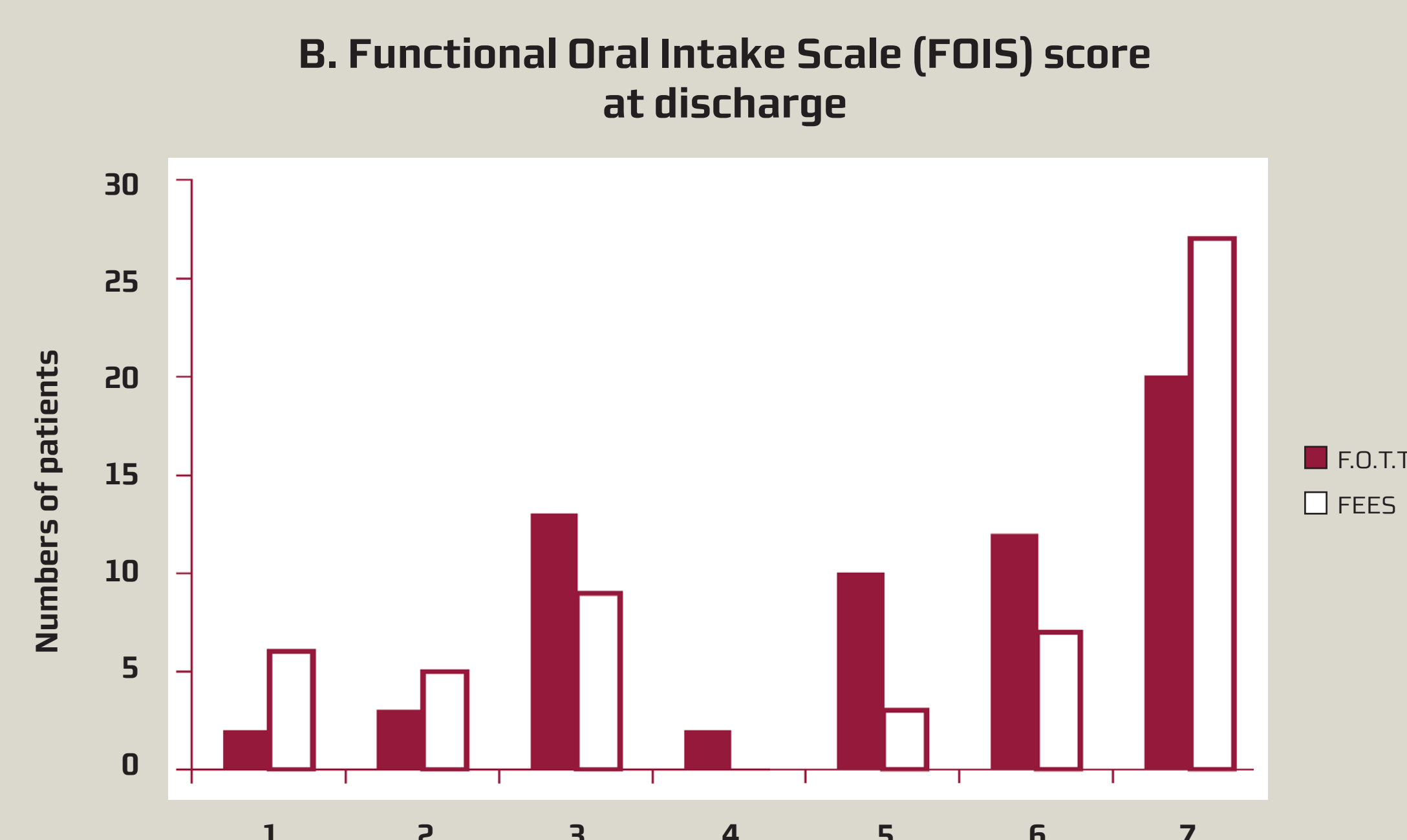
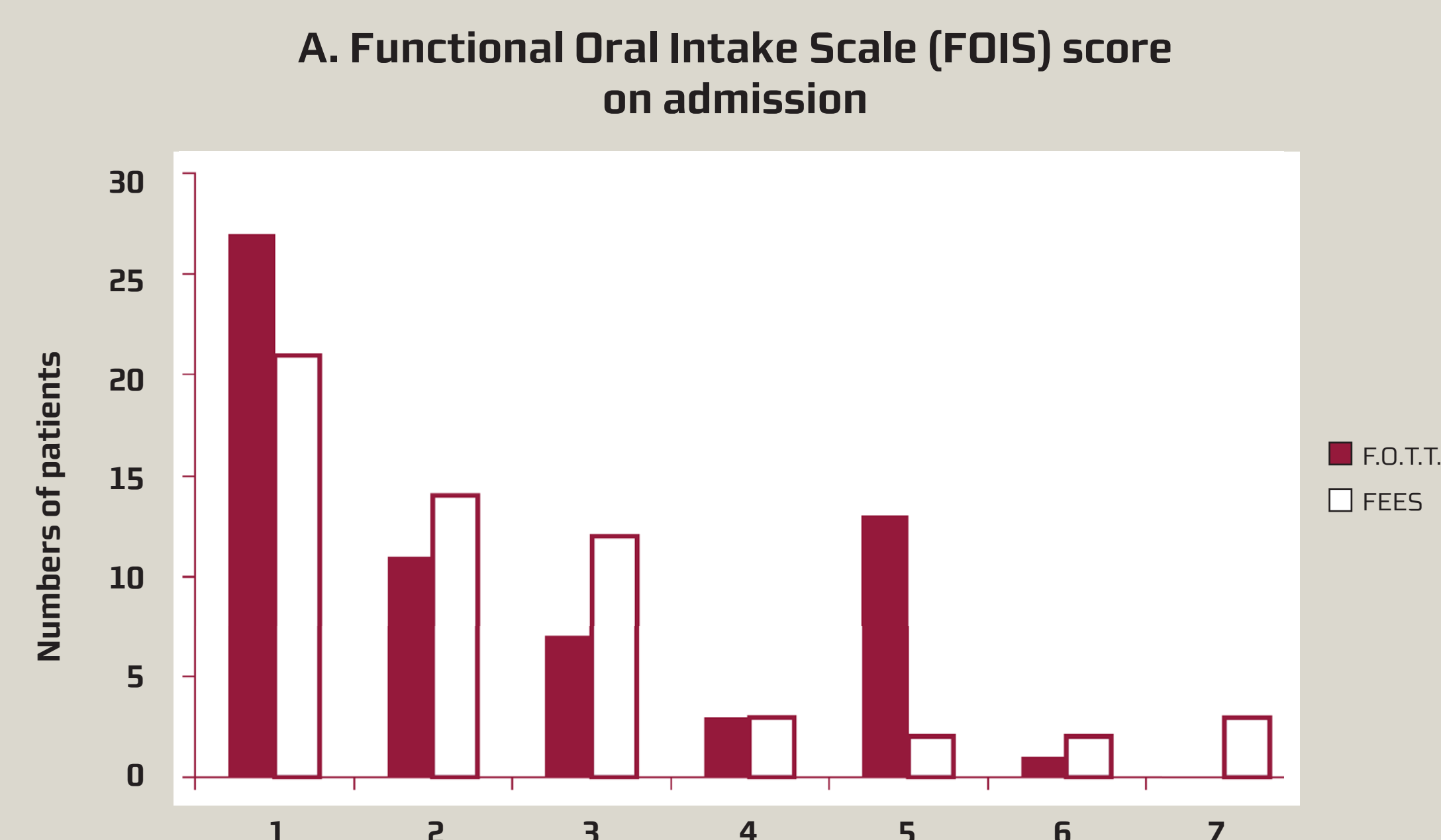
Standard clinical assessment of oral functions from the treating occupational therapist (OT) within 24 hours of admission. The aim was to assess the prerequisites for swallowing saliva and initiation of oral intake with visual and tactile assessment. After randomisation, patients in the intervention group were examined with FEES within 24–48 hours of admission. It was performed by an independent, interdisciplinary team. The aim was to assess the prerequisites for swallowing saliva and initiation of oral intake, the evaluation of the swallowing function, and the ability to protect the airways and to decide whether oral intake was safe.

## Main outcome measures

The present measures are all secondary outcome measures of the original study (Clinical Rehabilitation Volume 28 Issue 3 March 2014 pp. 243 - 253.) where all data were collected before the blinding of assessment type was broken. Main outcome measure was time to full oral intake (level 7) of the Functional Oral Intake Scale (FOIS), which is a simple seven-level ordinal scale where levels 1-3 relate to varying degrees of non-oral feeding; levels 4-7 relate to varying degrees of oral feeding without non-oral supplementation.

## Results

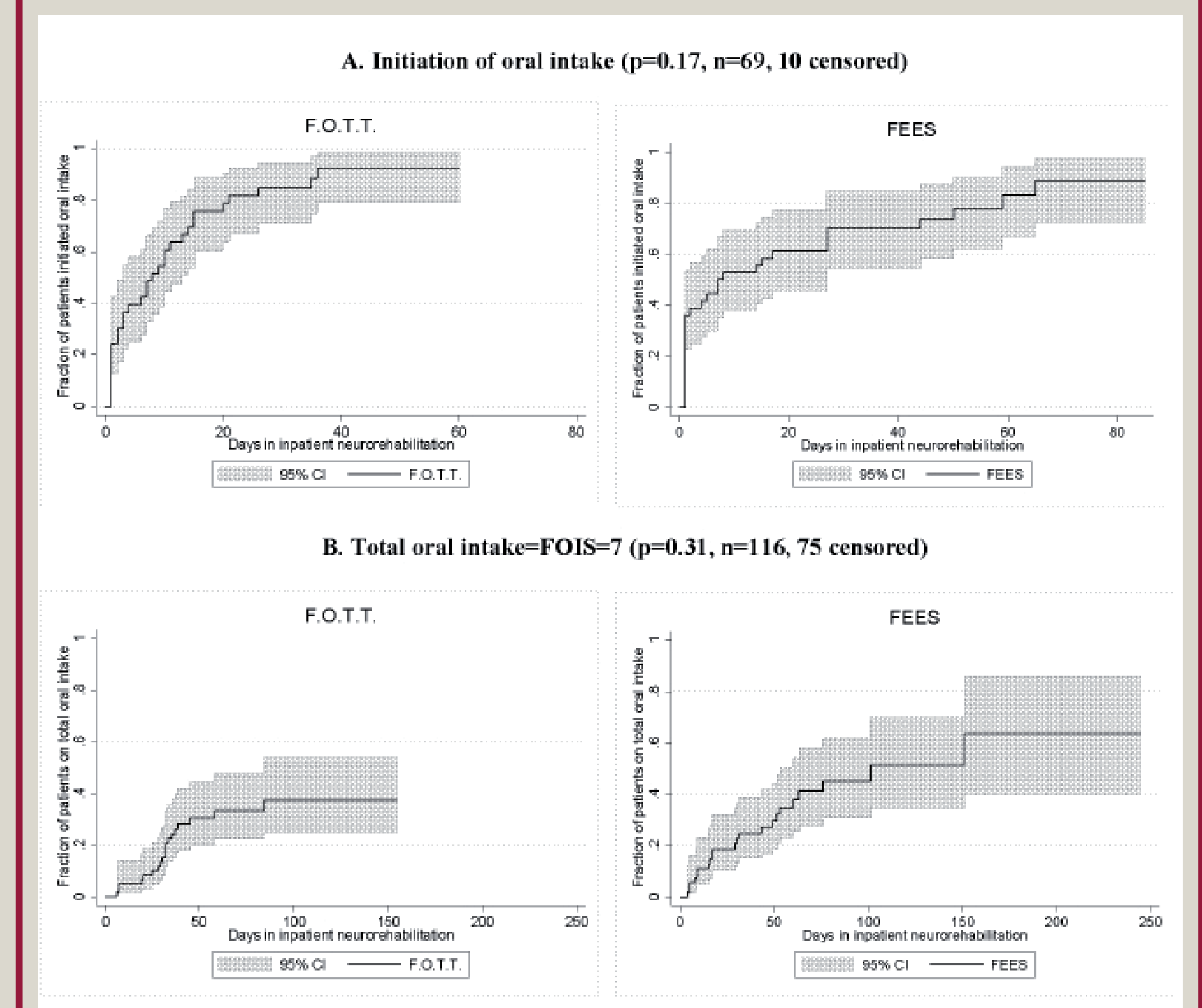
The spectrum of FOIS scores on admission and at discharge.



## Initiation and total oral intake

Fifty of 119 (42%) (29 controls/21 interventions;  $p=0.35$ ) patients had been initiated for some oral intake of modified consistencies of food and liquid on admission, while 109 of 119 (92%) (59 controls/50 interventions;  $p=0.35$ ) were initiated for oral intake before discharge. All patients who were initiated on admission maintained their oral status during IRP. The median number of days after injury until initiation was 39 (range, 10–447) and from admission until initiation was 1 day (range, 0–65).

For the patients on total oral intake at discharge, the median number of days post injury onset until initiation was 33 (range, 10–88), and the median number of days from admission until initiation was one day (range, 0–20).



A total of 44 of 119 (37%) (19 controls/25 interventions;  $p=0.18$ ) were on total oral intake at FOIS level 7 at discharge. Three patients who achieved total oral intake within 24 hours of admission remained so at discharge; 41 patients went from FOIS < 7 to FOIS = 7 during IRP. Survival analysis showed that the estimated mean time from injury until total oral intake was 56 days (range, 22–179) and from admission until total oral intake was 30 days (range, 0–151).

## Conclusion

There was no significant difference in time to initiation and recovery of total oral intake before discharge, whether assessed by F.O.T.T.<sup>®</sup> or FEES, indicating that instrumental assessment is unnecessary for standard evaluation.

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