

# Agility, Mobility and Body Balance in Haemodialysis Patients Undergoing Intradialytic Exercise Program

Rui Camisa<sup>1</sup>, Soraia Dinis<sup>1</sup>, Nuno Gomes<sup>1</sup>, Alexandra Seabra<sup>2</sup>, João Fazendeiro Matos<sup>3</sup>

<sup>1</sup>Fresenius Medical Care, NephroCare Coimbra, Coimbra, Portugal

<sup>2</sup>Fresenius Medical Care, NephroCare Portugal, Portugal

<sup>3</sup>Fresenius Medical Care, NephroCare Portugal, Porto, Portugal

## Introduction

Elderly patients with Chronic Kidney Disease (CKD) undergoing haemodialysis have an inferior physical function and higher incidence of falls than healthy elderly population. A fall can be the first sign of physical and functional decline which can lead to an increased morbidity and mortality. Therefore, intradialytic exercise programmes (IEPs) are considered an important strategy to develop body balance and prevent falls.<sup>[1]</sup>

## Objectives

- To assess IEP's influence on agility and body balance in CKD patients.
- To compare test results with standard values of healthy population at the same age.

## Methods

Retrospective and descriptive study. IEP combined aerobic intradialytic exercise on a cycle ergometer and strengthening exercises with weights and compression balls. The programme started 2 years ago and until today, 20 patients still participate (Group 1). 18 months later we established another group with 21 patients (Group 2). Since 2014, data were collected every 3 months with tests Up and Go (TUG). Later, tests Single Leg Stance (SLS) and Tandem Stance (TS) were also applied (Figure 1).

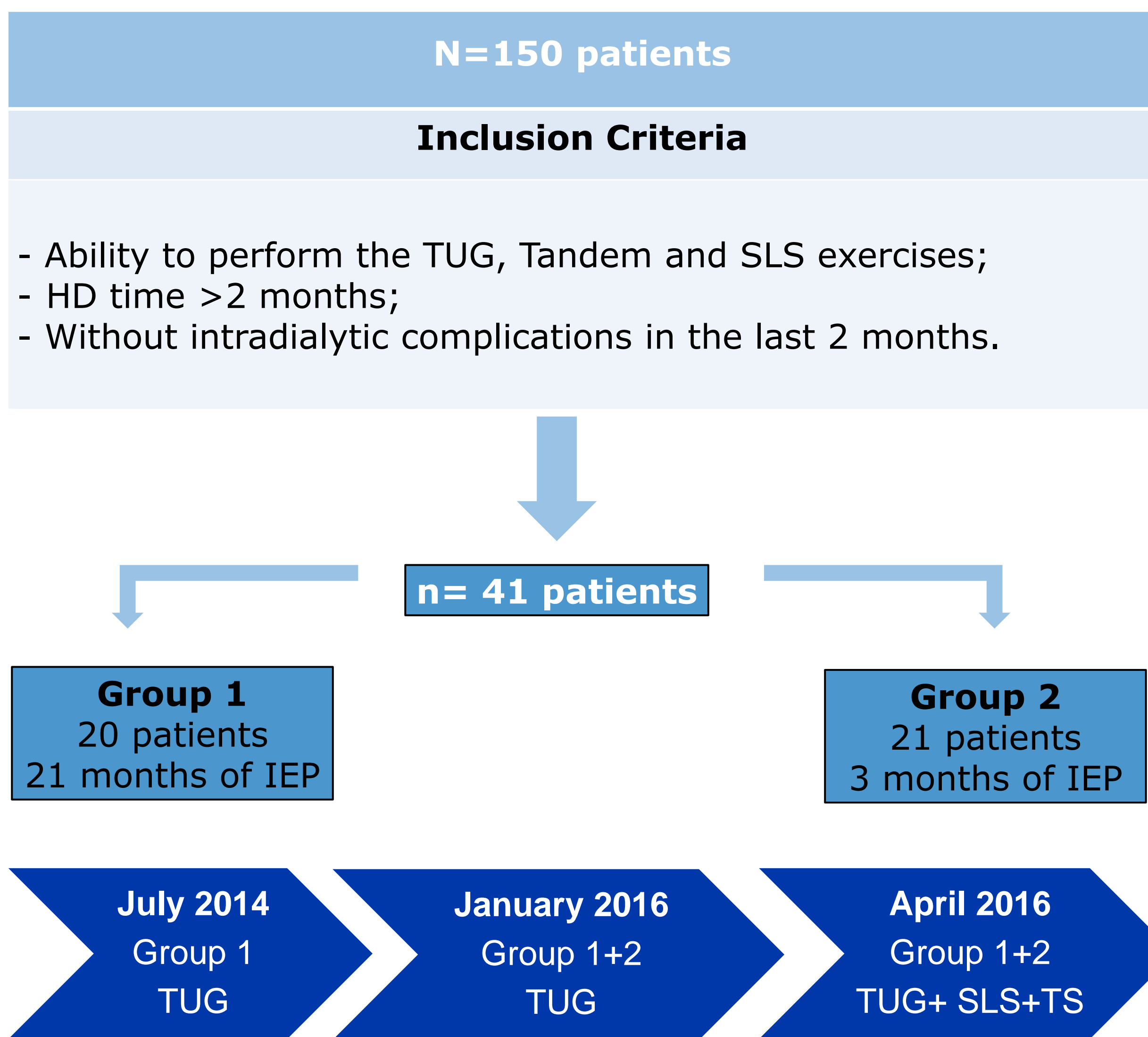


Figure 1 – Patient's assessment flowchart

## Results

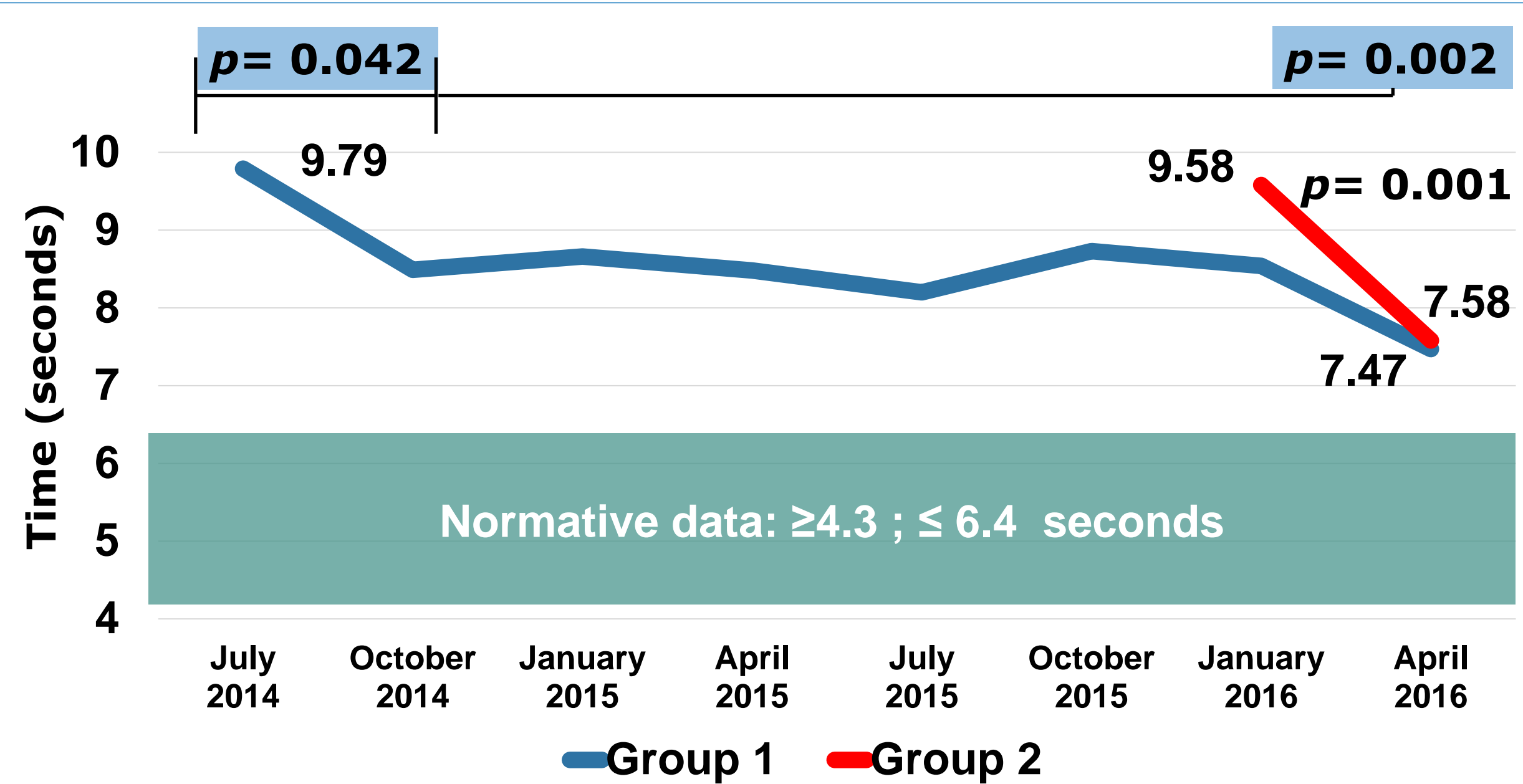


Figure 2 – TUG

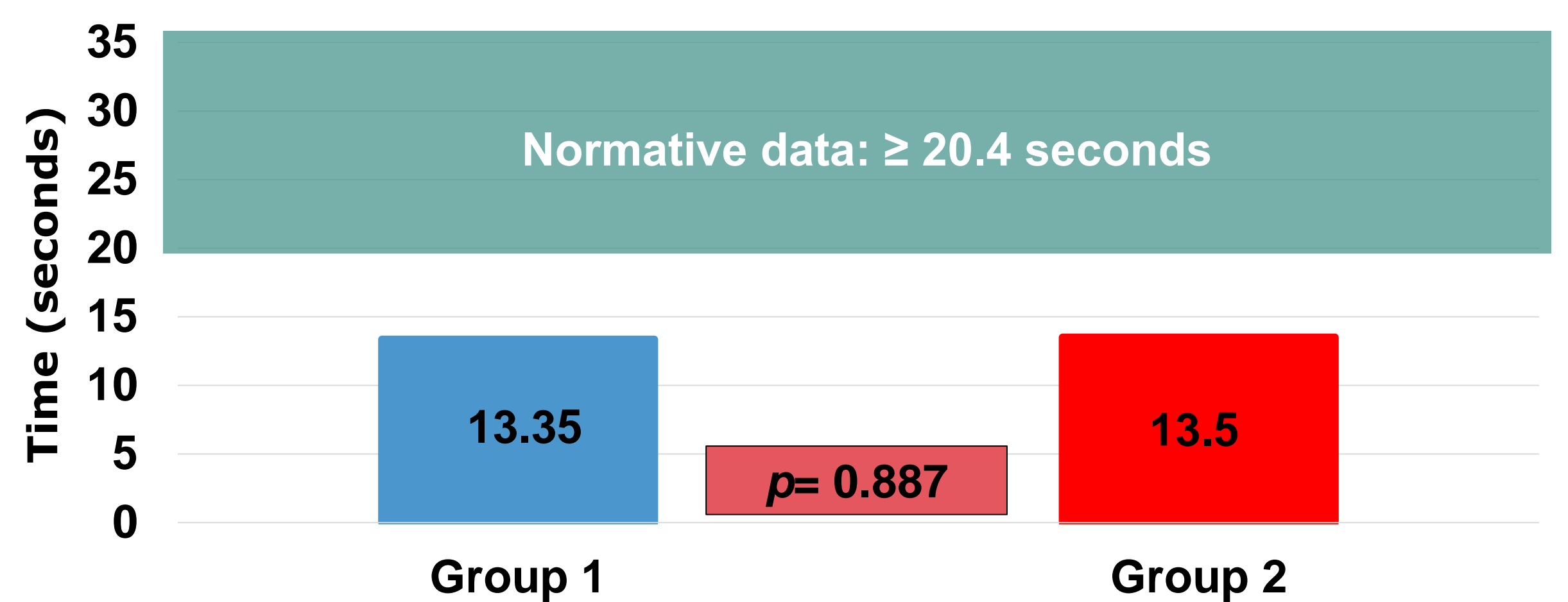


Figure 3 – SLS

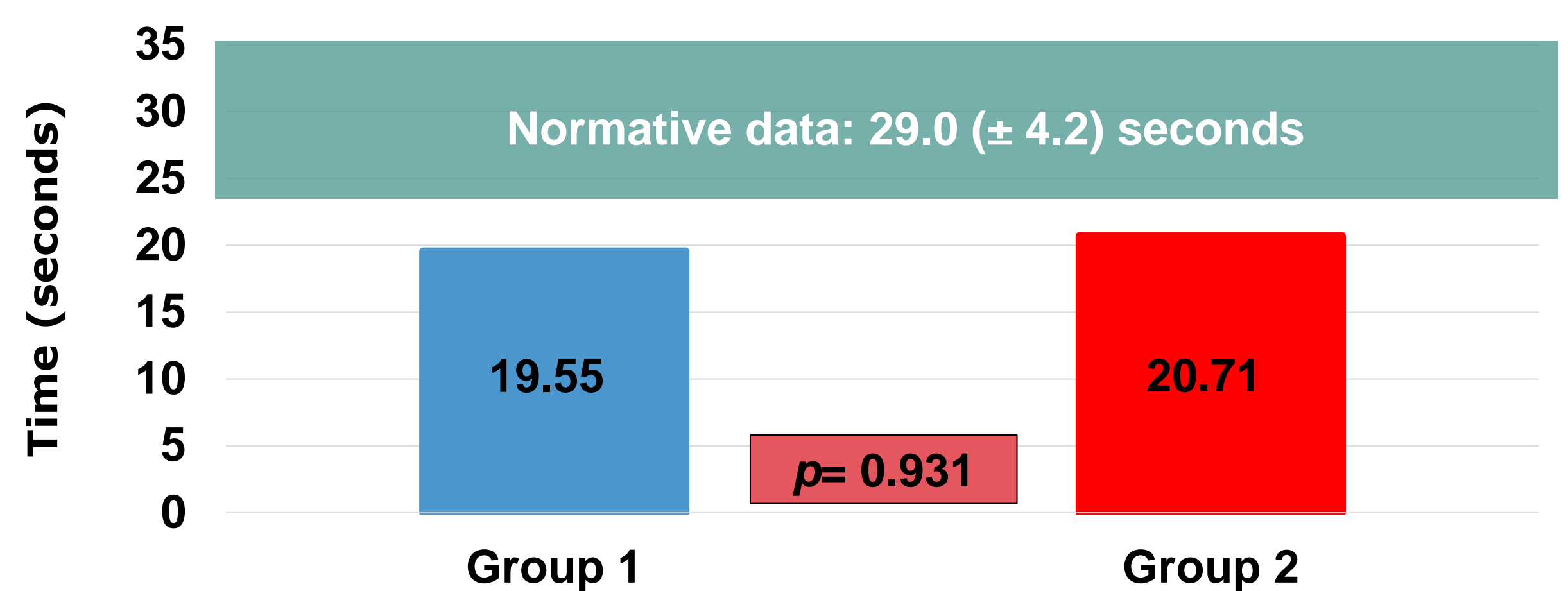


Figure 4 – TS

## Conclusions

IEP was beneficial for our patients and increased both their quality of life and autonomy. Despite the gains in agility and mobility in the lower limbs, patients maintained body balance values out of normative data for both tests. The WHO recommends regular balance training for people >65 years which was not included in this intervention. We suggest to evaluate the effect of an intradialytic exercise programme also on the incidence of falls.

## References

- [1] - JOHANSEN, KL. (2008) - **Exercise and dialysis**. *Hemodial Int* Jul; Vol. 12 (3), pp. 290-300.  
 [2] - DEEVER, K., Cote, D. (2013) - **Nursing risk assessment: Fall prevention strategies in the outpatient hemodialysis setting**. *Nephrology Nursing Journal*, 40(3), 259-261.  
 [3] - RIEBE, D. [et al], (2015) - **Updating ACSM's Recommendations for Exercise Preparticipation Health Screening**. *Official Journal of the American College of Sports Medicine*.