

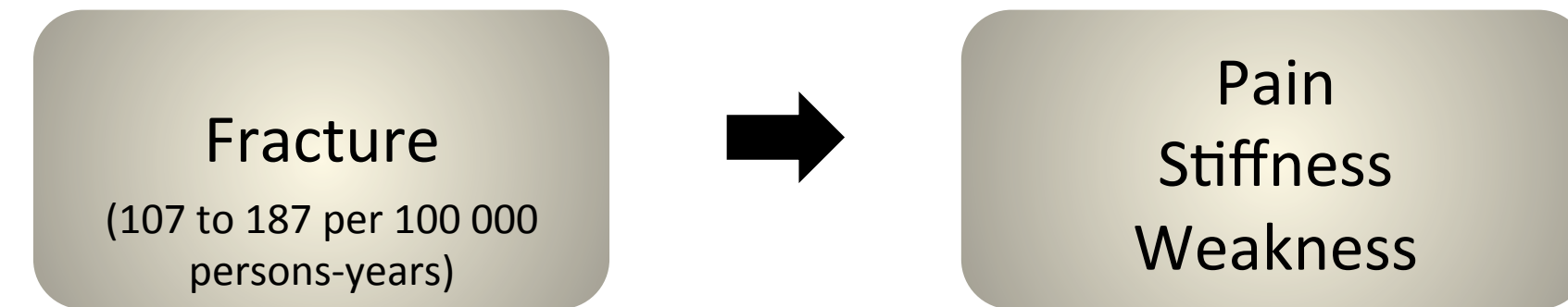
Efficacy of physiotherapy performed in a clinical setting vs a home exercise program for people with a fracture of the ankle treated with open reduction and internal fixation (ORIF): A Pilot Study

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INTRODUCTION

- Amongst the most common injuries of the lower limb.



- Absence of consensus between orthopedists or physical therapists on the management post immobilisation.

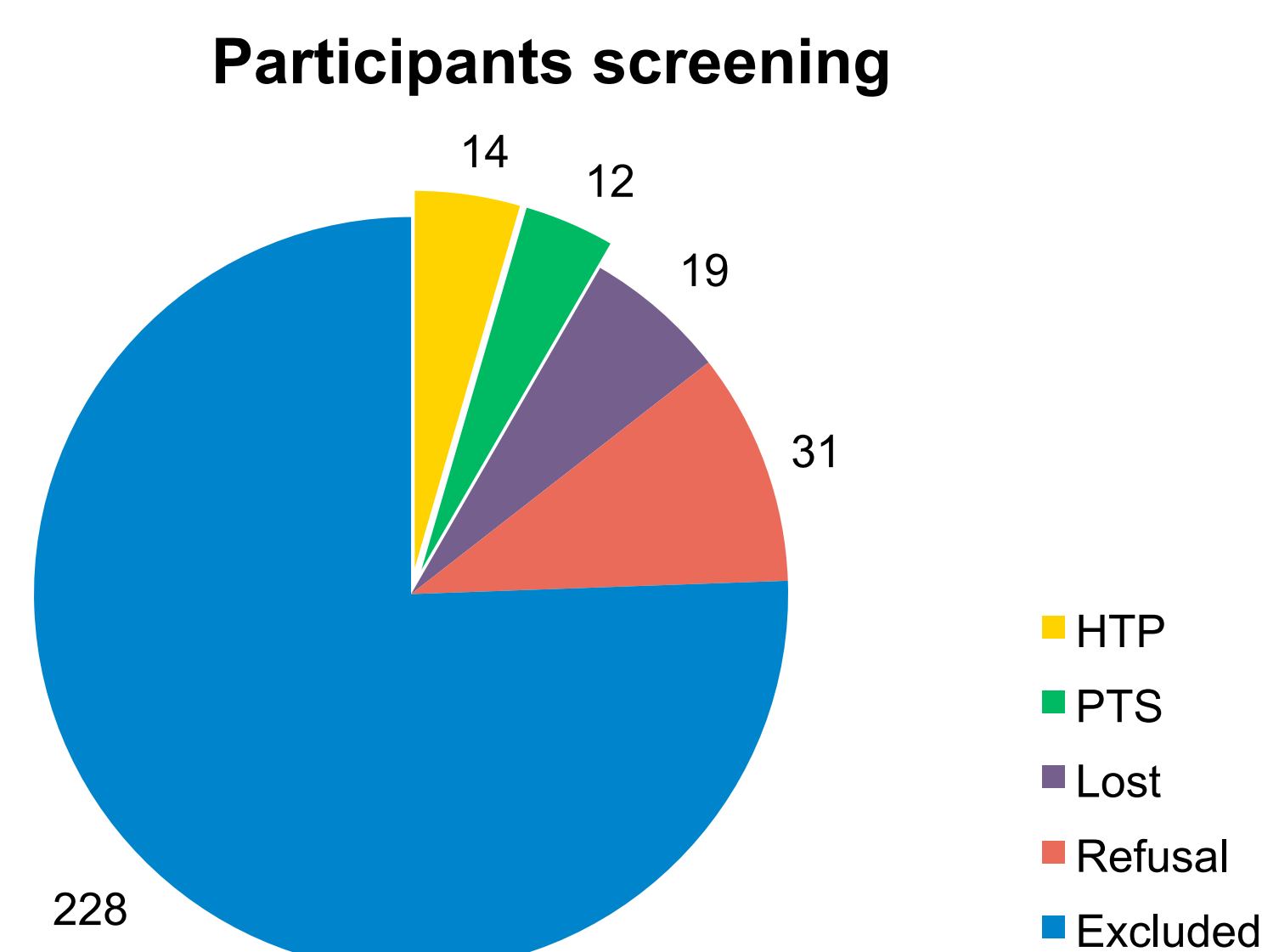
AIMS OF THE PILOT STUDY

- Demonstrate the plausibility effect;
- Demonstrate the applicability treatment in daily settings;
- Demonstrate the possibility to recruit a large number of participants.

METHODOLOGY

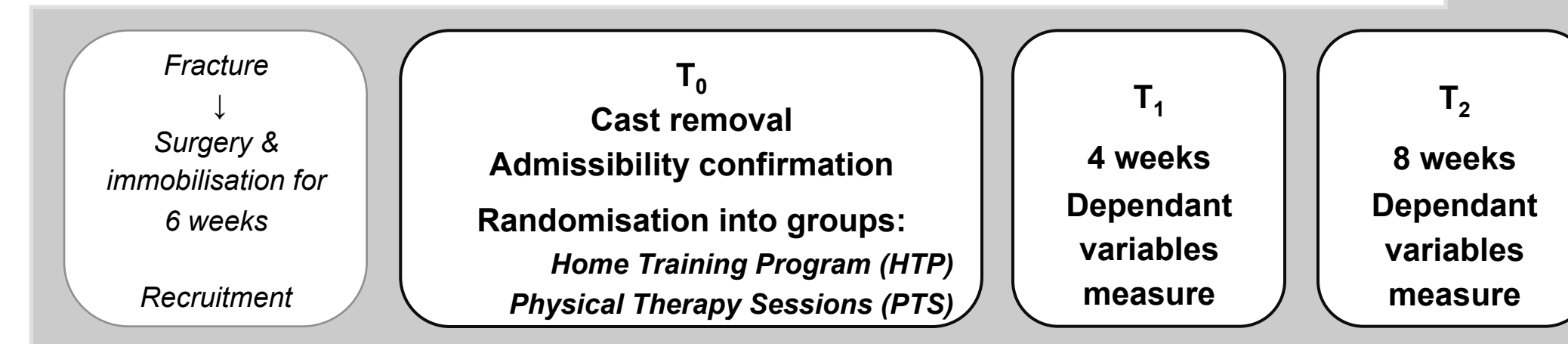
Participants

- Study Design : pilot study → randomised control trial
- Population : adults with ankle fracture living in Eastern townships
- Inclusion criteria :
 - ≥ 18 years old
 - uni-bi-trimalleolar fracture treated by ORIF
 - 6 weeks cast immobilisation
 - understand treatment instruction
- Exclusion criteria :
 - past injury on the affected side
 - condition that limits mobility and motricity
 - particular medical condition noted by the orthopedist
- Participant sample :
 - n = 12 Home Training Program (HTP)
 - n = 14 Physical Therapy Session (PTS)



METHODOLOGY (continued)

Procedure



Interventions

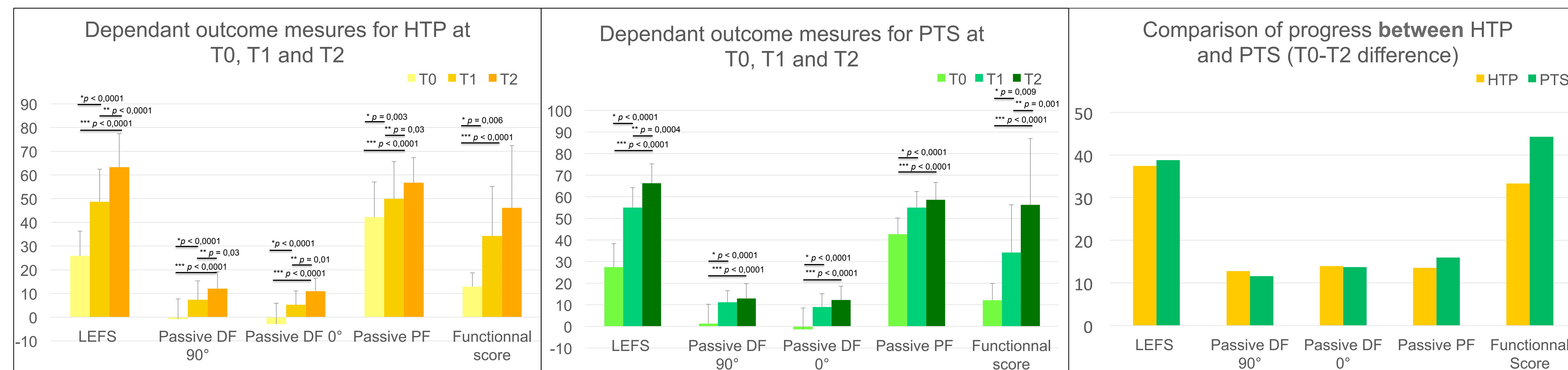
Home training program			
Goals	Level 1 No weight bearing allowed	Level 2 Weight bearing allowed	Level 3 Weight bearing allowed
Mobility/ Flexibility	• DF and PF • inversion and eversion • ankle circumduction • soleus stretching	• DF knee to wall • top of the foot stretching	• gastrocnemius stretching • hamstrings stretching
Balance		• one leg stance eyes open	• one leg stance eyes close
Strength	• toe flexors strengthening	• heels raise two legs stance • heels walk • lunges	• heels raise one leg stance • lunges weight in the hands

Analysis

- The intra and inter-group mean (SD) values for each dependant variables and the repeated mixed-design ANOVA results were used for the statistical analysis. The significant p value was < 0,05.

RESULTS

- Participants characteristics :
The characteristics for each group participants are as follows : in the HTP group, the mean age, weight and height were 56 (±15,76) years, 73 (±10,76) kg and 167 (±10,46) cm respectively. In the PTS group those values were 47 (±17,76) years, 73 (±14,58) kg and 165 (±10,30) cm. In the HTP group, there were 5 men and 9 women and for the PTS group, there were 5 men and 7 women. The distribution of participants is as follows : in the HTP group 6 participants had a unimalleolar ankle fracture and 8 had a bi/trimalleolar ankle fracture for a total of 14 participants. In the PTS group 6 participants had a unimalleolar ankle fracture and 8 had a bi/trimalleolar ankle fracture for a total of 12 participants.



- There were statistically significant differences for all intra group outcomes between T0-T2.
- The comparison between the HTP and the PTS does not reveal statistically differences in all data collected at all evaluation time.

DISCUSSION

- Both HTP and PTS groups showed improvement in relation to outcome measures, though there was no statistically significant differences between both groups.
- Difficult to recruit a large number of participants in a relatively short period of time. A second site was added to remedy to this situation.
- A RCT with a large number of participants would allow intra-group stratification, thus allowing us to bear more precise conclusions.
- Procedures are ready for a future RCT.

Limitations :

- Interns provided treatment in clinic instead of an experienced physical therapist.
- Time lapse between assessments might have been too spaced apart.

CONCLUSION

- Both interventions give similar results in terms of efficacy.
- RCT with appropriate sample size is needed in order to validate that the HTP is not inferior to the PTS.
- This pilot study was necessary because it allowed us to make research procedures suitable for a future RCT.

Ethic committee :

This study protocol has been submitted and accepted by the research ethic committee of Centre de recherche clinique Étienne-LeBel.

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