

## Introduction

Online Circular Contrast Perimetry (OCCP) is a web-based visual field test application

It offers portable visual field testing on any computer, laptop or tablet with an internet connection

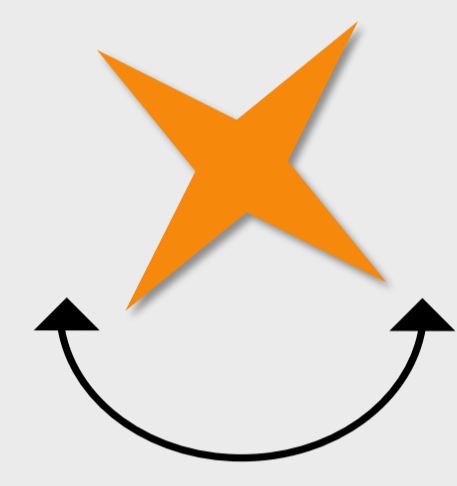
This study aimed to determine the repeatability and reliability over 18 weeks in comparison to standard automated perimetry (SAP)

## Online Circular Contrast Perimetry

### A

#### Fixation target

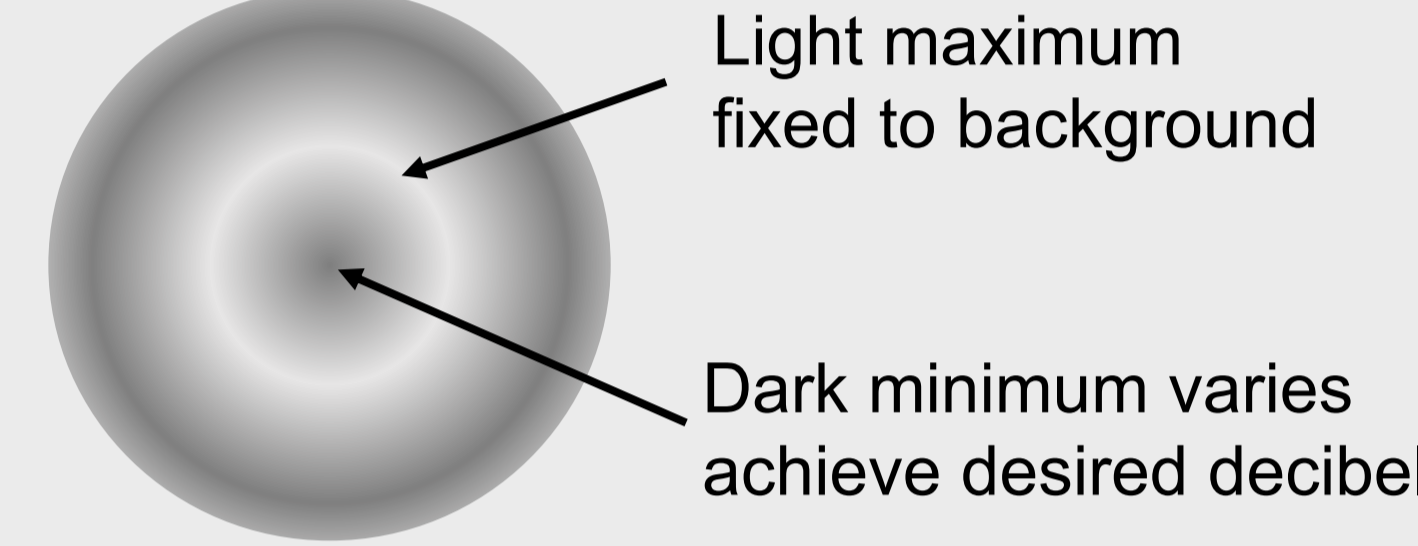
- Spinning gold star



### B

#### Flickering test target

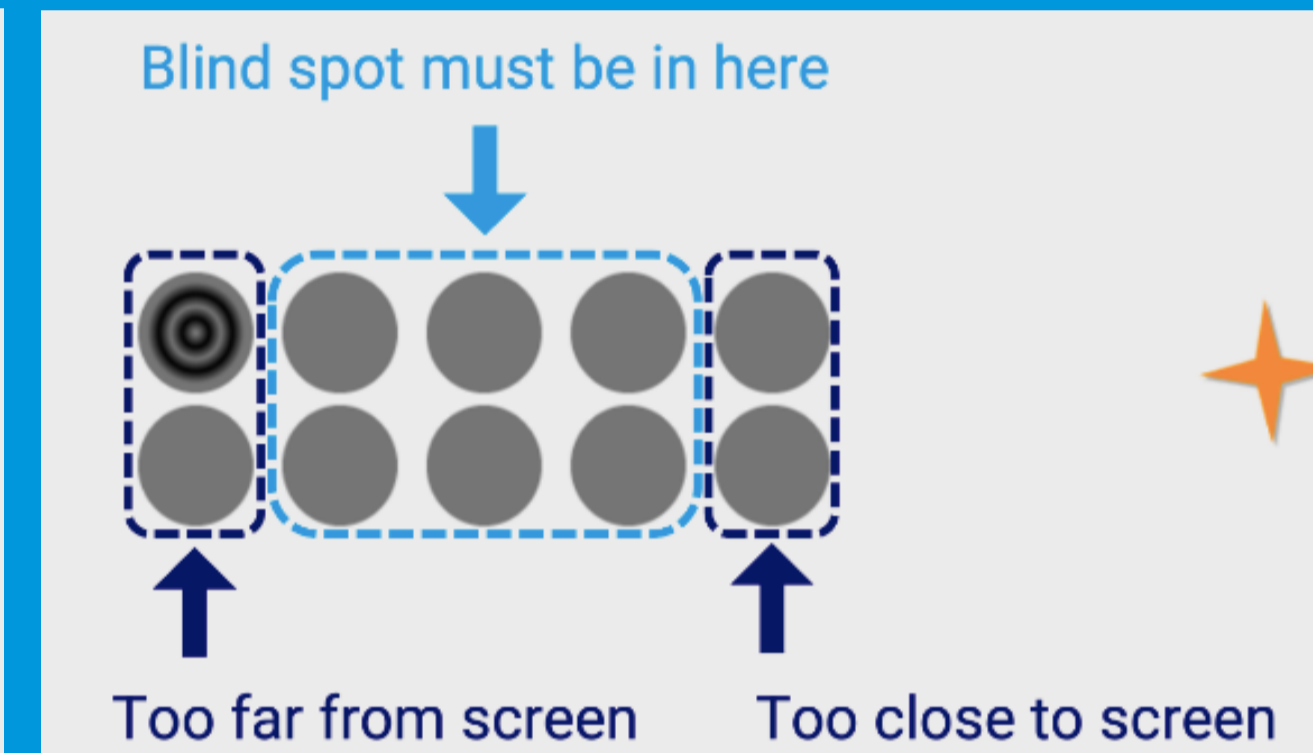
- appears for 360 msec
- Over 3 x pos/neg cycles



### C

#### Blind spot localisation

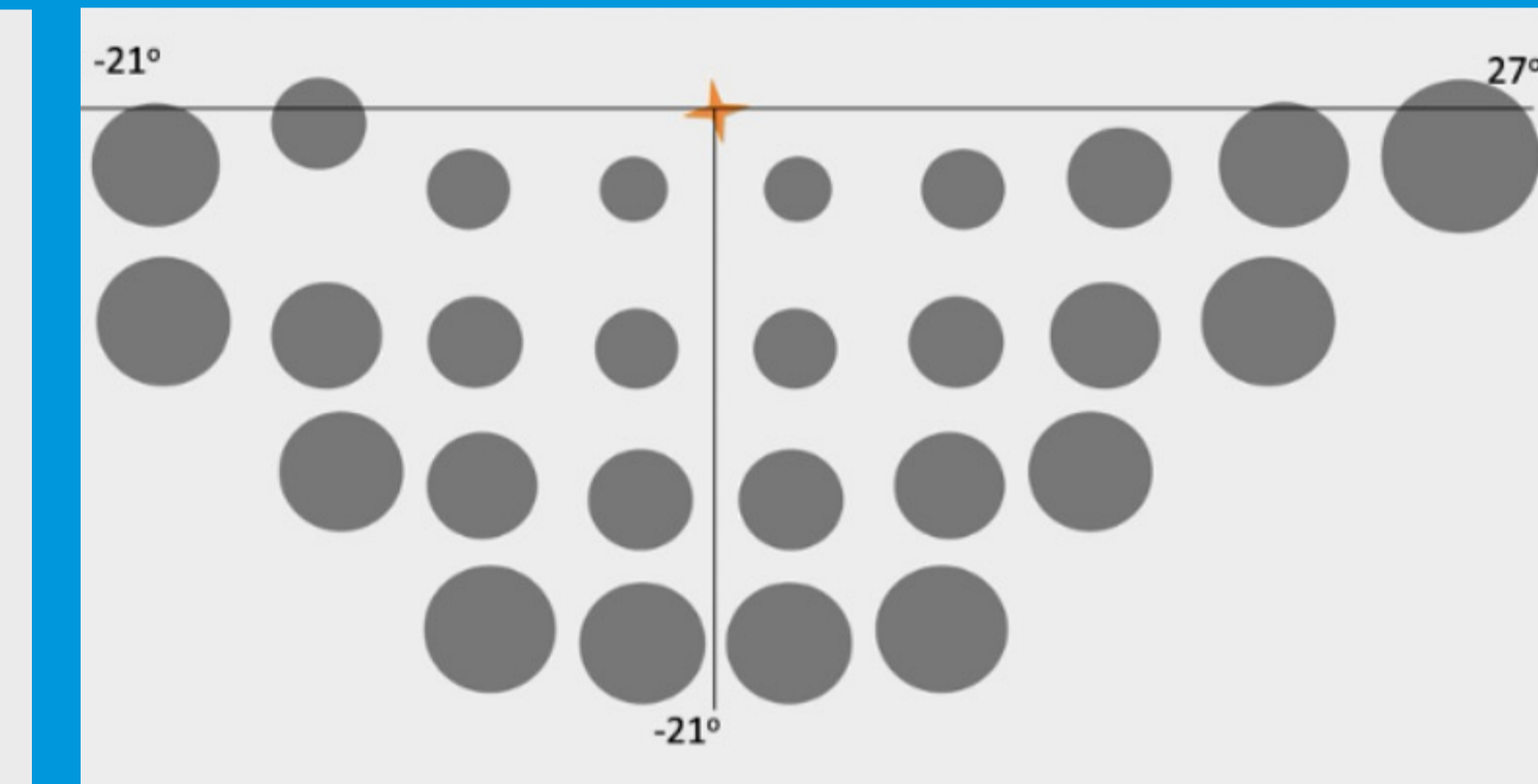
- Optimise viewing distance
- Count fixation loss



### D

#### Moving fixation

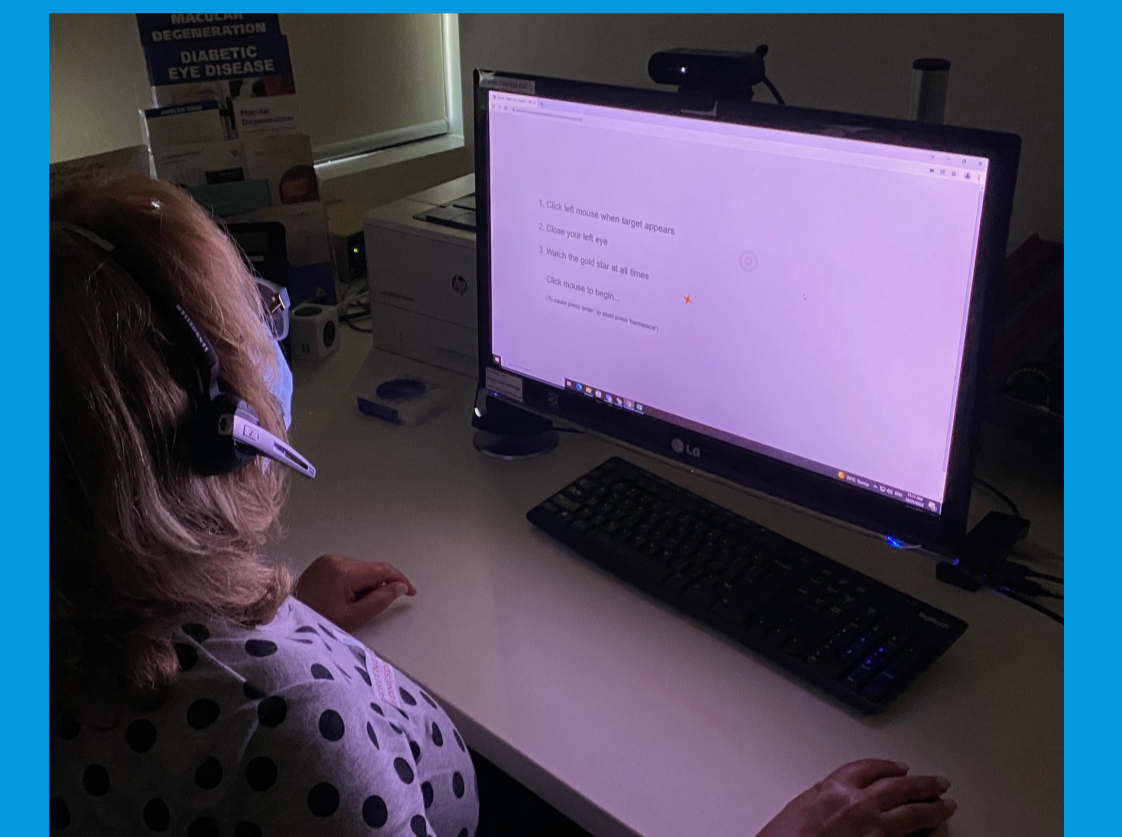
1. Star at top; inferior hemifield tested
2. Star moves to screen bottom
3. Then superior hemifield tested



### E

#### User monitoring

- Webcam monitors user
- AI face detection (not recognition)



## Methods

### Cohort

23 glaucoma, 13 controls (60 eyes)

### Tests

SAP  
OCCP

### Outcomes:

mean deviation (MD), secondary global indices, reliability indices, test time

### Analysis

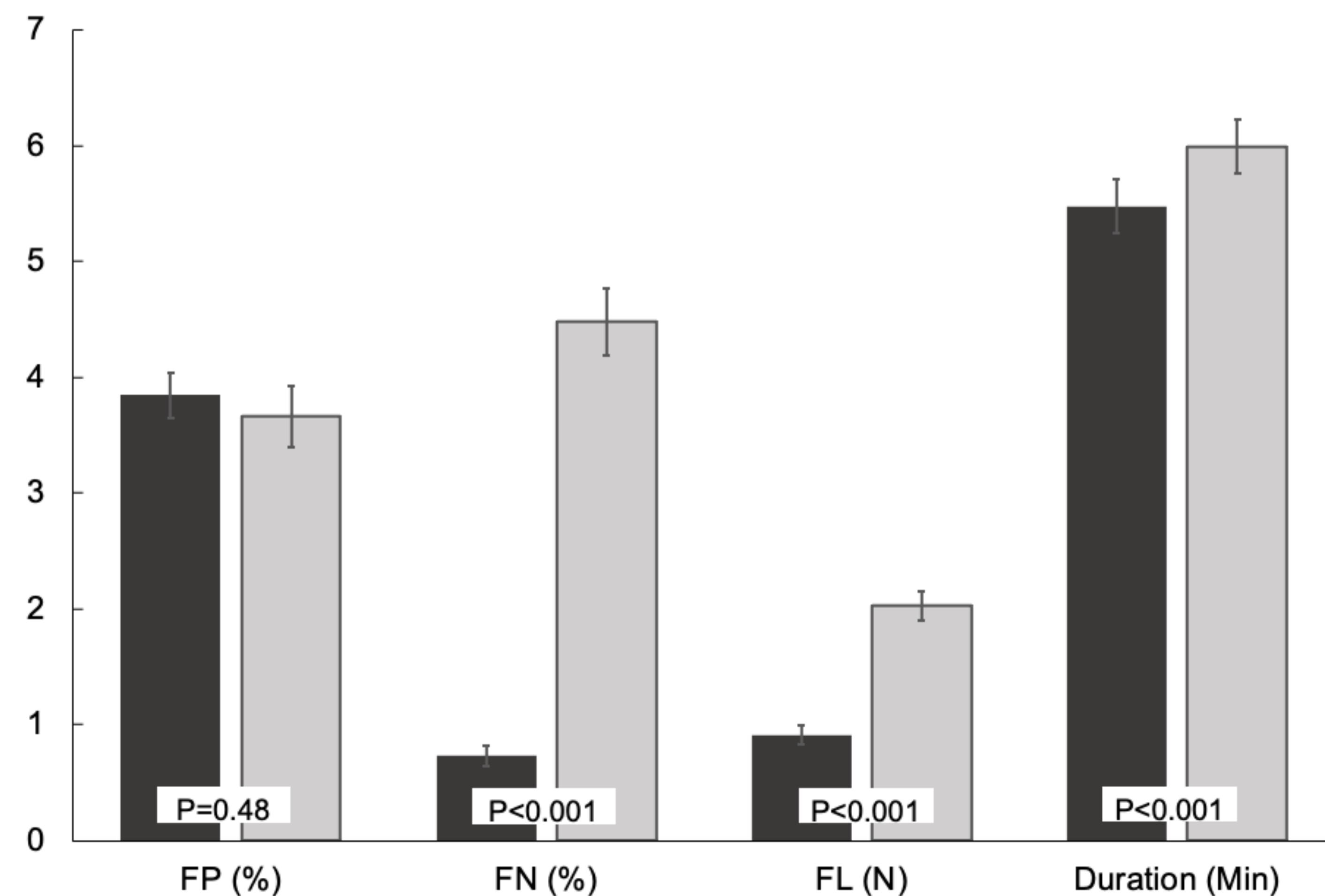
Bland-Altman analysis, intraclass correlation coefficients for inter-test reliability, linear regression, mixed linear model analysis

## Results

### 1

#### OCCP & SAP Reliability, Duration

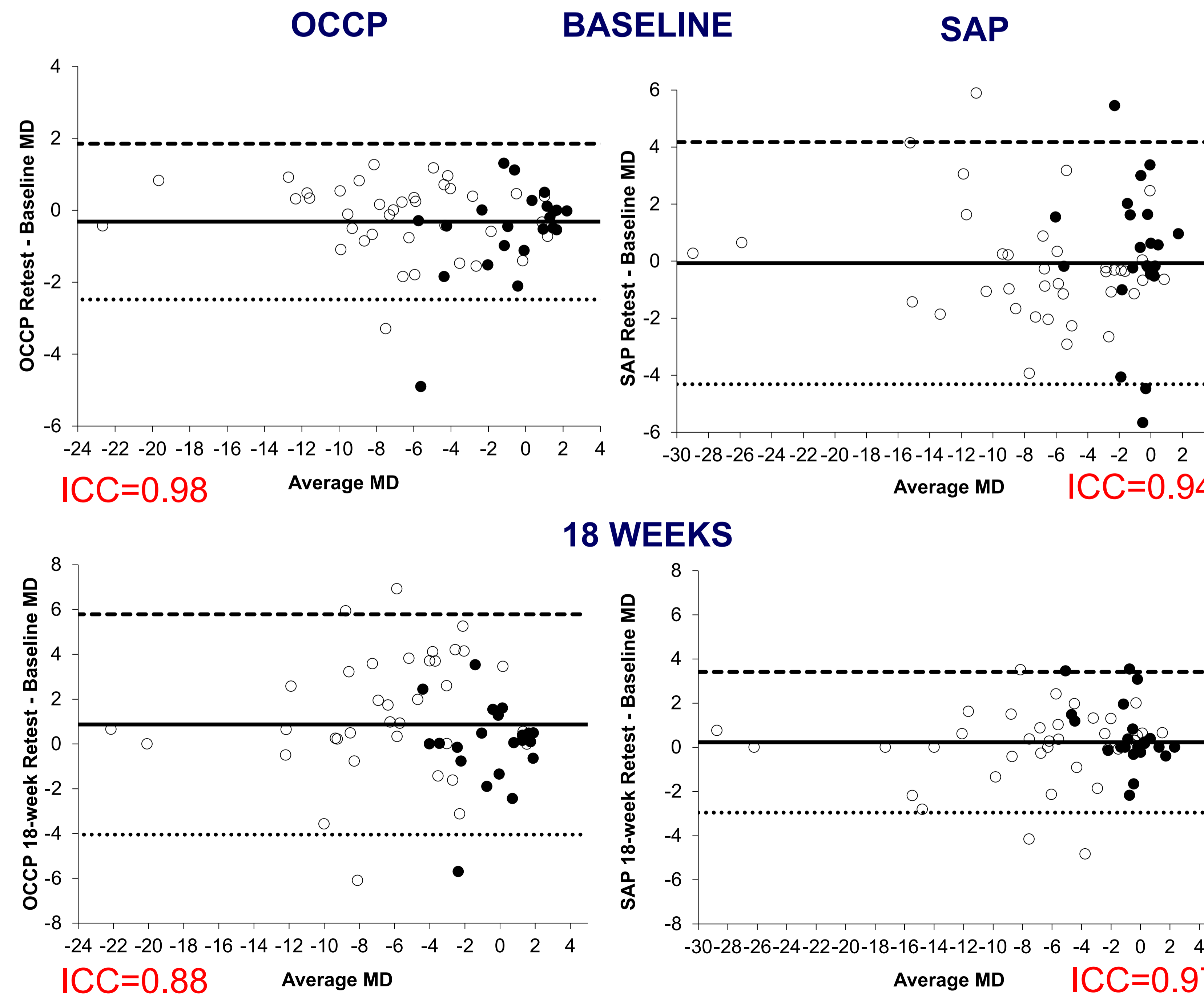
Similar false positive (FP) but lower false negative (FN) and fixation loss (FL) responses and shorter test time compared with SAP



### 2

#### OCCP & SAP Repeatability

Bland-Altman plots for MD

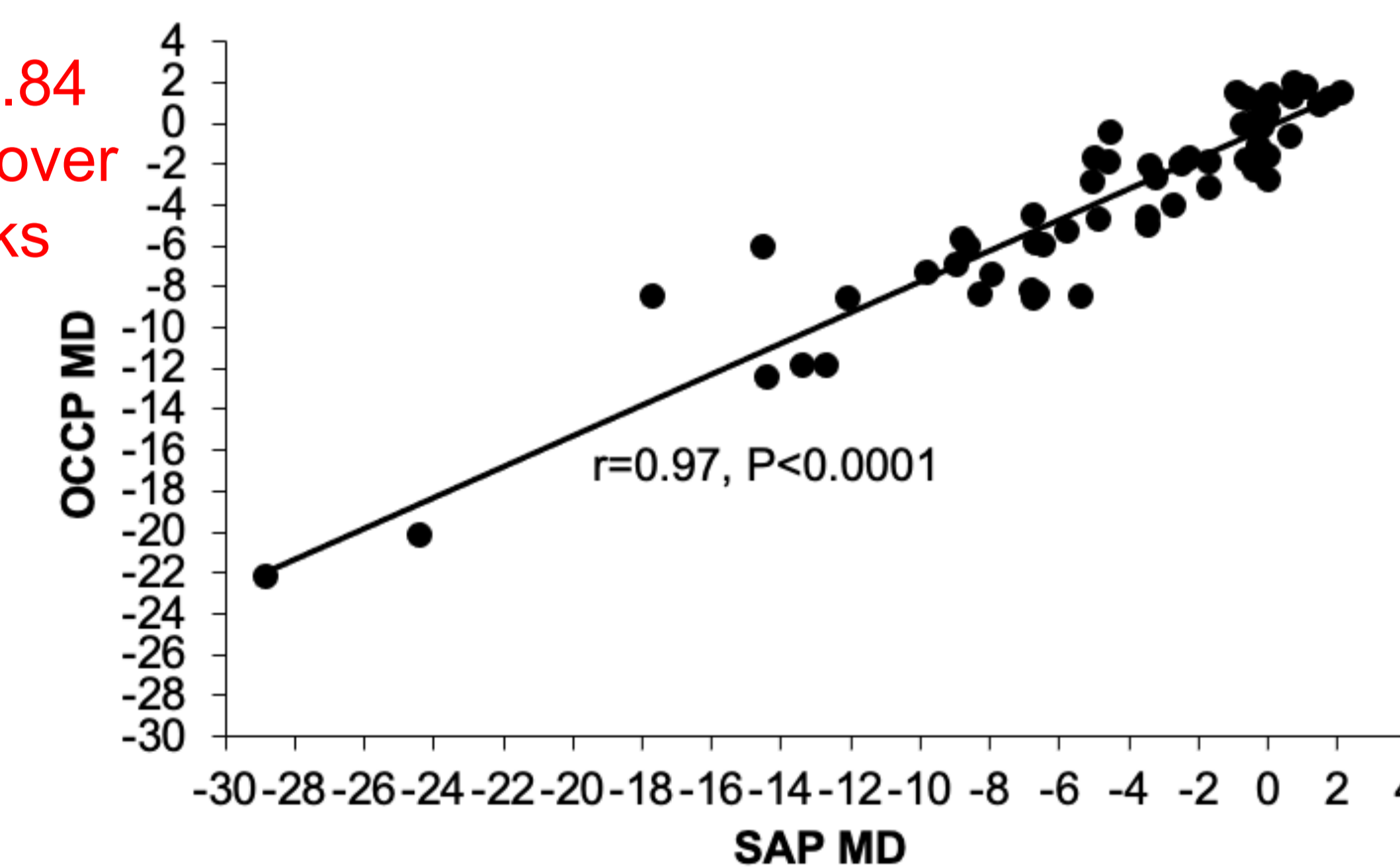


### 3

#### OCCP & SAP Agreement

Linear regression for MD over 18 weeks

ICC = 0.84 to 0.87 over 18 weeks



## Conclusion

OCCP has excellent repeatability and reliability, which are similar to SAP

OCCP holds promise for expanding screening and home monitoring for glaucoma