Usefulness Of Dynamic Ultrasonographic Evaluation For The Diagnosis Of Medial Meniscus Posterior Root Tear

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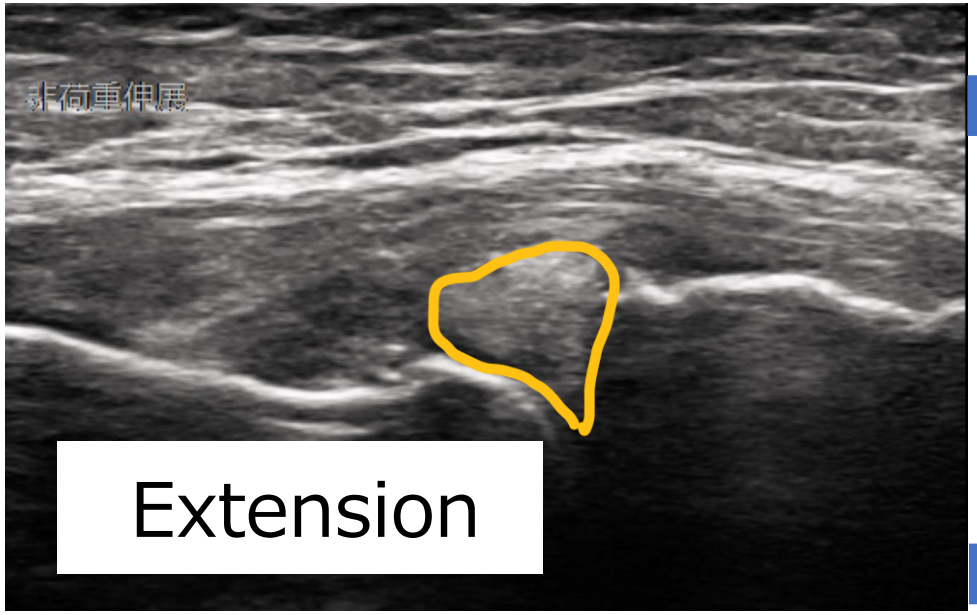
Disclosure of Conflict of Interest

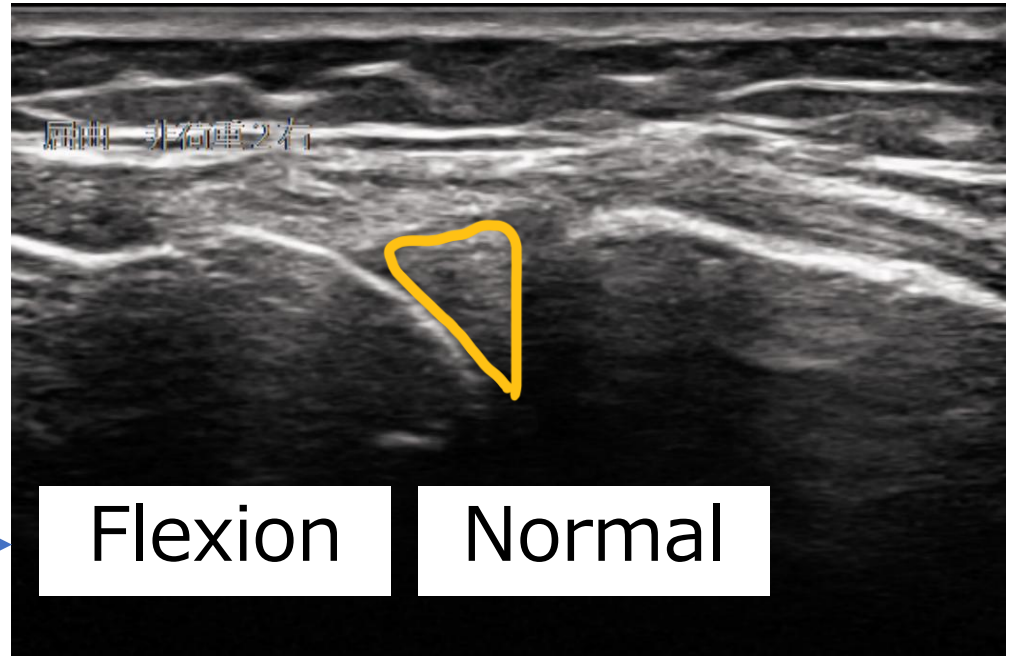
Name of first author : Kayo Matsumiya

I have no COI
with regard to our presentation

Introduction

In recent years, dynamic evaluation of MME using ultrasound for the diagnosis of this MMPRT has been reported





Loss of meniscal hoop function

(*Shimosazaki. Et al. Scientific Reports 2021.*)

✓ Few reports have dynamically evaluated the MME of MMPRT

✓ No report comparing MME in MMPRT cases, OA cases, and healthy subjects was found in our searches

Purpose

To dynamically evaluate MME features of MMPRT using ultrasound system

Methods

【OA group】
・Kellgren - Lawrence grade1～2

【Control group】
・No history of treatment
・No complaints about the knee joint

	MMPRT group (n=42)	Knee OA group (n=37)	Control group (n=29)
Sex	Male 6, Female 36	Male 17, Female 20	Male 7, Female 22
Age(year)	62.0±9.3	61.0±9.6	31.0±9.3
Height (cm)	158.8±5.8	163.1±8.9	160.3±8.0
Weight (kg)	66.0±13.4	66.2±10.1	55.8±9.2
BMI	26.0±4.3	24.9±3.3	21.6±2.4

(mean ± SD)

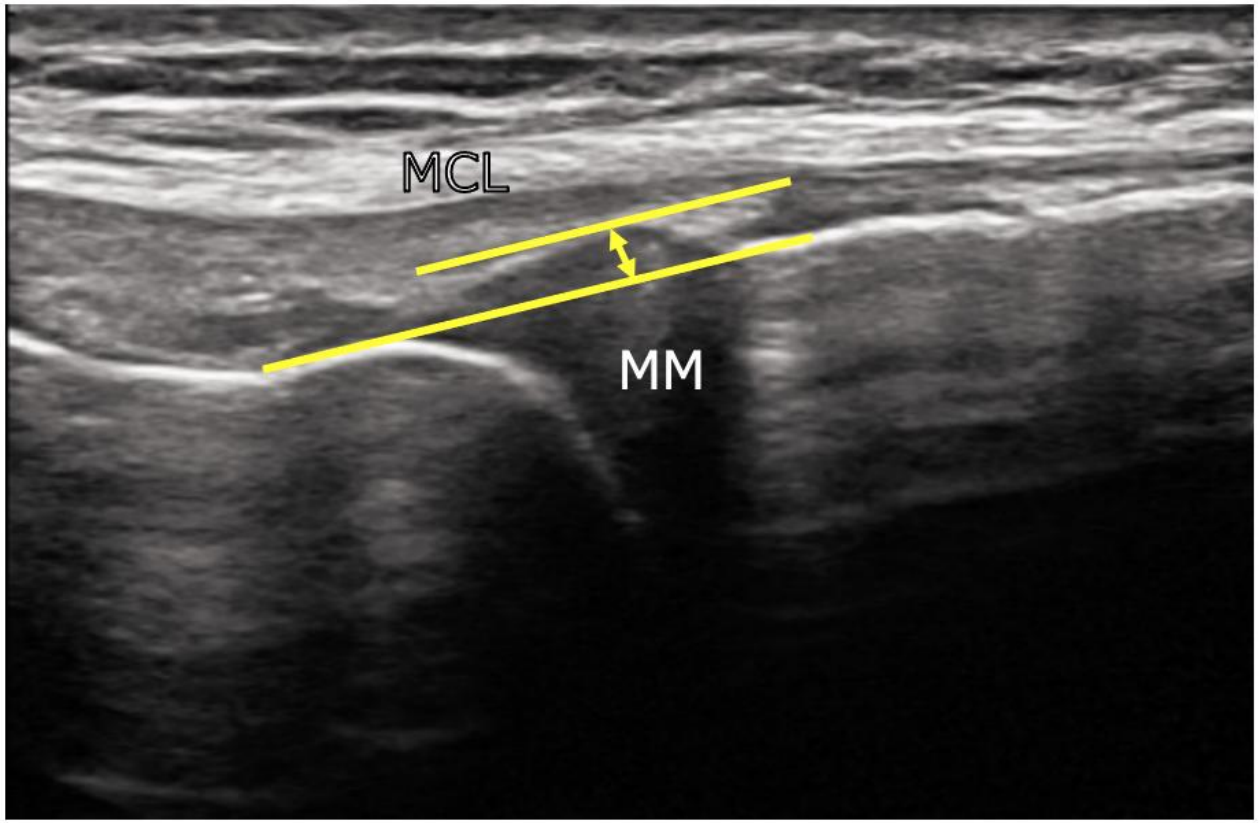
Measurement position

Non-WB

ext

90°flex

Measurement of MME



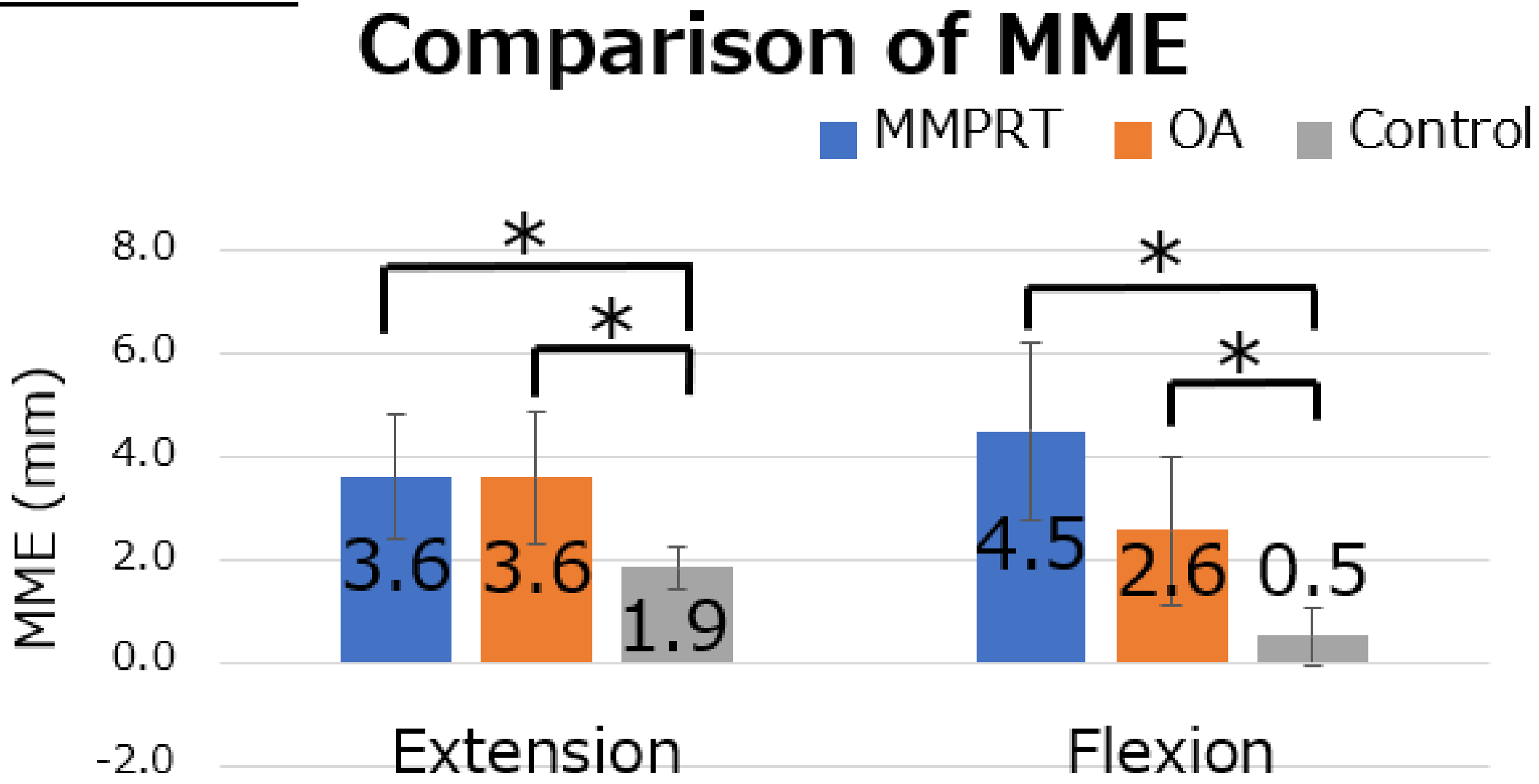
Bony landmark: medial femoral epicondyle

MCL is best depicted on US

Matsumiya, JOSKAS 2023

The distance from the line connecting the femoral and tibial cortices, excluding the osteophytes, to the most extrusion medial meniscus medial margin was defined as MME

Results



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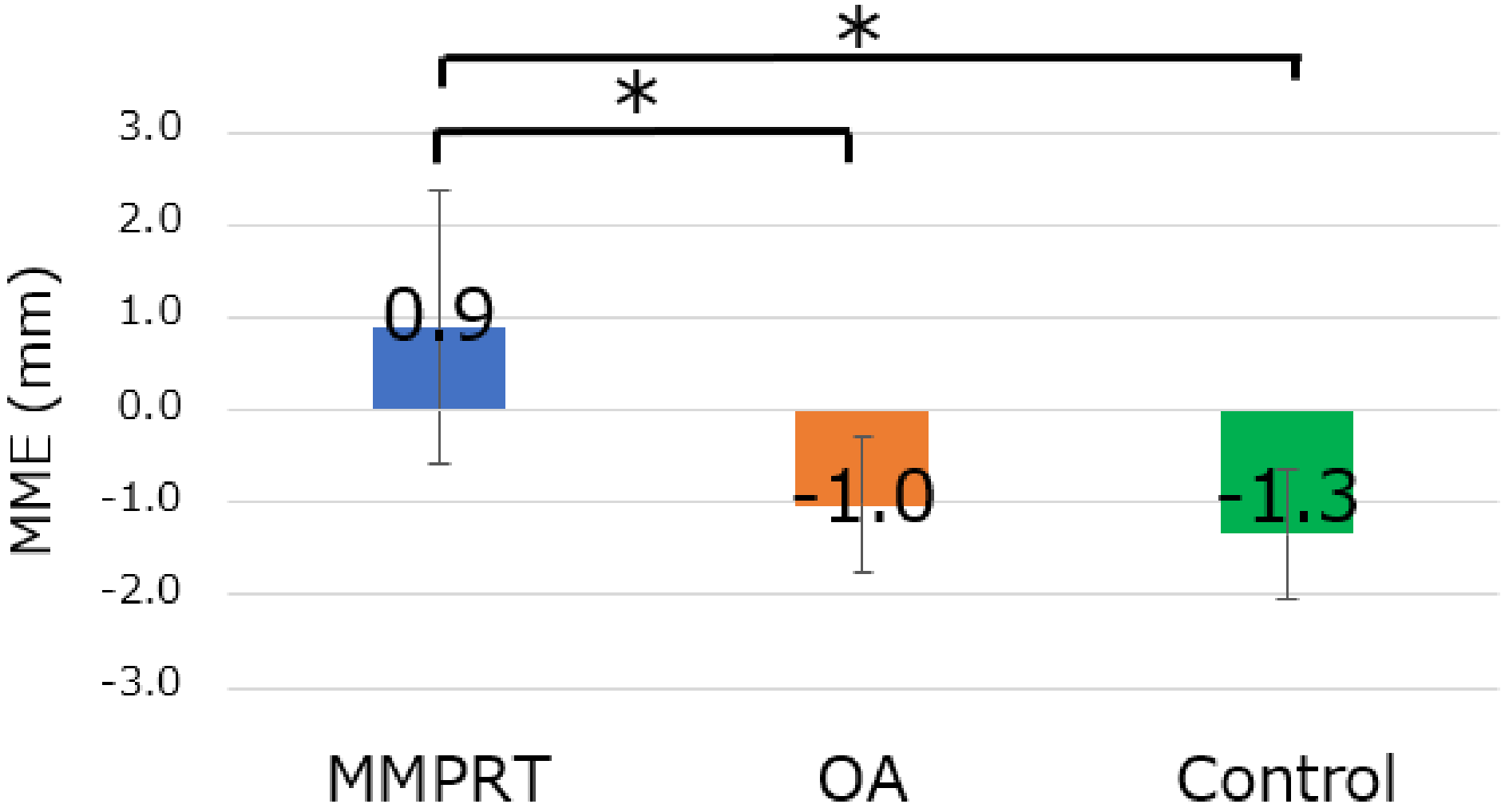
Amount of change in MME (Flex-Ext)



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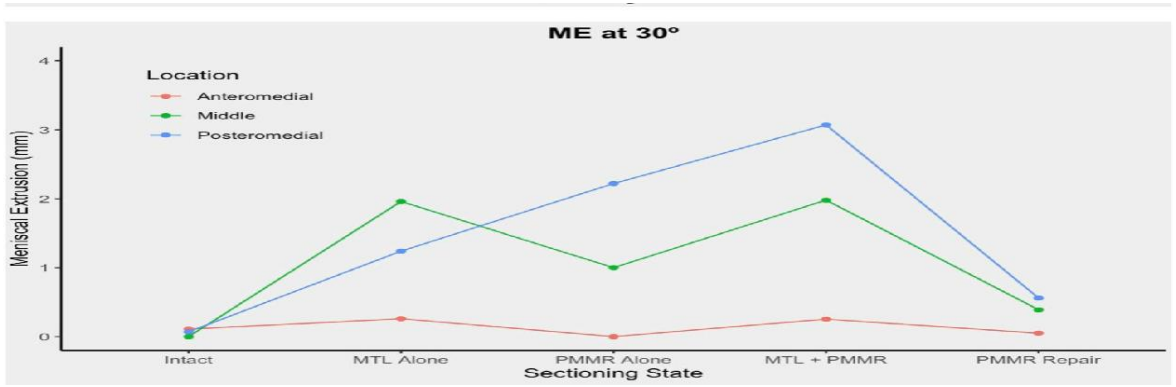
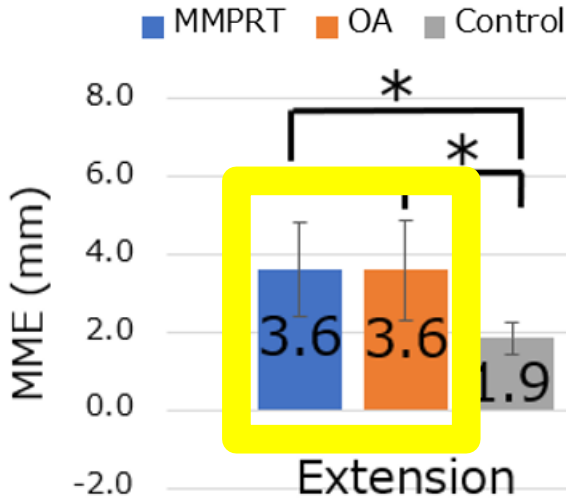
Discussion

MMPRT Cutoff at extension position

- **5.0mm** (KL0, 1) Non-WB, knee extension （*Chiba*, *Scientific Reports 2022*）
- **3.0mm** Non-WB, knee flexion 30°, MCL behind （*Farivar*, *Arthroscopy 2023*）





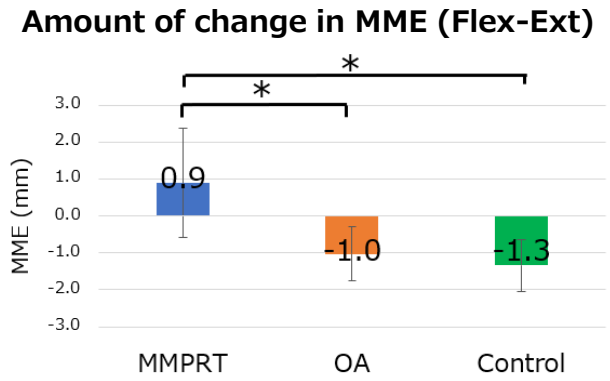
The present study

No significant difference was found between MMPRT group and OA group

MME in extension position alone does not diagnose MMPRT

MMPRT Cutoff in dynamic evaluation

- MME decrease of **1 mm** or more is not observed (*Shimozaki, , Scientific Reports 2021*)
- MME at 90°flexion **> 2 mm** (*Shimozaki, Arch Orthop Trauma Surg 2023*)



The present study

✓No decrease in MME with flexion to extension

✓Dynamic evaluation of MME showed breakdown of Hoop functionality

Dynamic evaluation of MME is useful as an adjunctive diagnosis to MMPRT

Conclusions

- ✓ MMPRT showed no decrease in MME with extension to flexion
- ✓ MME dynamic evaluation in ultrasound systems is useful for diagnostic adjunct to MMPRT

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