6 月 6 日（土）12：30～13：30　第 7 会場（ホール D5）【英語　Motor control & Kinesiology】

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A relationship between fidgety movements and sleep EEG in 2-month-old infants

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【Purpose】
The general movements of infants aged 2 to 5 months are called fidgety movements（FMs）. Earlier studies have shown that the abnormality of FMs is highly predictive for later neurological impairments. In this study, we addressed how the differences in FMs are related to differences in sleep EEG characteristics. Thus we compared occurrence patterns of sleep spindles（SSs）between infants who showed continuous FMs and those who showed intermittent FMs.

【Methods】
Participants were 11 healthy 2-month-old infants born full-term（4 boys, 7 girls, 83-88 days old）. Firstly, we measured EEG with eight surface electrodes during diurnal sleep for longer than 20 minutes, and immediately after sleep we videotaped general movements for 10 minutes. We classified participants in two groups : continuous FMs（FMs＋＋）and intermittent FMs（FMs＋）by the gestalt perception of general movements according to Prechtl's method. For the analysis of EEG we detected 30 s epochs including SSs. Since SSs occur only in the beginning of quiet sleep, normalized duration of initial SS occurrence in reference to the total measurement time was calculated and was referred to as SS index. We used Mann-Whitney U test for group comparison of SS index.

【Results】
Participants were classified in FMs＋＋group（n＝5）and FMs＋group（n＝6）. The sleep time（median）was not significantly different between both groups（FMs＋＋：45.5 min, FMs＋：35.8 min）. The median of SS index of the FMs＋＋group（45.5％）was significantly larger than that of the FMs＋group（24.4％）（$p = 0.03$）.

【Discussion】
The present study showed that continuous occurrences of FMs can be associated with sustained occurrence of SSs. Our results imply that spontaneous movements during awaking and brain activity during sleep may reflect common maturational properties for the central nervous system for 2-month-old infants.