

Effect of maintaining neck flexion position and periodic movement on brain activation

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2007 Fiscal Year Final Research Report Summary

Effect of maintaining neck flexion position and periodic movement on brain activation

Research Project

Project/Area Number

17207019

Research Category

Grant-in-Aid for Scientific Research (A)

Allocation Type

Single-year Grants

Section

一般

Research Field

生理人類学

Research Institution

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Project Period (FY)

2005 – 2007

Keywords

Neck flexion position / Periodic movement / Brain activation / Attention / Voluntary movement / Reaction time of eve movement / Prefrontal cortex / Cerebral blood flow

Research Abstract

Firstly, we investigated the brain activation caused by neck flexion and observed following findings: Facilitation of various sensory brain evoked potentials and increment of cerebral blood flows in the relevant brain regions; Increments of amplitude in contingent negative variation and preceding action time of postural muscles during bilateral arm movement; Shortening of P300 latency and increase of P300 amplitude at Pz site during the arm movement; Decrease in negative peak amplitude at Cz site associated with the anti-saccade; Increase in motor evoked potentials recorded from the upper limb muscles, elector spinae and rectus femoris by transcranial magnetic stimulation to the motor cortex. Furthermore, vibration stimulation effects to the trapezius were found for shortening of reaction times in visually-guided, memory-guided and anti saccades. The shortening of reaction times in the latter two saccades was noticeable.

Next, we investigated the brain activation during saccade caused b ...▼ More

Research Products (66 results)

All	2008	2007	2006	2005	Other
All	Journal Article	Presentation	Book		

- [Journal Article] Effect of vibration stimulation to neck extensor muscles on reaction time in various saccadic eye movements. **2008** ▼
- [Journal Article] Changes in the activity of the cerebral cortex relate to postural response modification when warned of a perturbation. **2008** ▼
- [Journal Article] Changes in the activity of the cerebral cortex relate to postural response modification when warned of a perturbation **2008** ▼
- [Journal Article] Effects of neck flexion on contingent negative variation and anticipatory posturalcontrol during arm movement while standing. **2007** ▼
- [Journal Article] Postural control adaptability to floor oscillation in the elderly. **2007** ▼
- [Journal Article] Effects of preparatory period on anticipatory postural control and contingent negative variation associated with rapid arm movement in standing posture. **2007** ▼
- [Journal Article] Investigation of a method using visual event-related potentials for evaluation of visuo-spatial attention allocation during standing. **2007** ▼
- [Journal Article] Effects of preparatory period on anticipatory postural control and contingent negative variation associated with rapid arm movement in standing posture. **2007** ▼
- [Journal Article] Postural control adaptability to floor oscillation in the elderly **2007** ▼
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- [Journal Article] Investigation of a method using visual event-related potentials for evaluation of visuo-spatial attention allocation during standing **2007** ▼
- [Journal Article] Effects of preparatory period on anticipatory postural control and contingent negative variation associated with rapid arm movement in standing posture **2007** ▼
- [Journal Article] Changes in saccadic reaction time while maintaining neck flexion in the elderly. **2006** ▼
- [Journal Article] Sports exercise effect on shortening of saccadic reaction time associated with neck extensor muscle activity. **2006** ▼
- [Journal Article] Postural muscle activity patterns during standing at rest and on an oscillating floor. **2006** ▼
- [Journal Article] Changes in saccadic reaction time while maintaining neck flexion in the elderly **2006** ▼
- [Journal Article] Sports exercise effect on shortening of saccadic reaction time associated with neck extensor muscle activity **2006** ▼
- [Journal Article] Postural muscle activity patterns during standing at rest and on an oscillating floor. **2006** ▼
- [Journal Article] Changes in posterior auricular muscle response and middle-latency brain potential evoked by auditory stimuli according to neck flexion. **2005** ▼
- [Journal Article] P100 latency of the visual evoked potential by hemifield pattern reversal stimulation during isometric contraction of the unilateral shoulder girdle elevator. **2005** ▼
- [Journal Article] Changes in posterior auricular muscle response and middle-latency brain potential evoked by auditory stimuli according to neck flexion **2005** ▼

[Journal Article] 100 latency of the visual evoked potential by hemifield pattern reversal stimulation during isometric contraction of the unilateral shoulder girdle Pelevator	2005	▼
[Journal Article] Effects of neck flexion on contingent negative variation and anticipatory postural control during arm movement while standing.		▼
[Journal Article] Effect of vibration stimulation to neck extensor muscles on reaction time in various saccadic eye movements.		▼
[Presentation] 頸部前屈保持に伴うプロサッケード反応時間短縮効果の持続性	2007	▼
[Presentation] Persistence in shortening of pro-saccade reaction time during neck flexion	2007	▼
[Presentation] 頸部前屈姿勢が皮質脊髄路の興奮性に及ぼす影響:経頭蓋的磁気刺激法による検討	2007	▼
[Presentation] 高齢者におけるサッケード眼球運動と前頭前野脳血流量	2007	▼
[Presentation] 頸部前屈を伴うサッケード反応トレーニングによるプロサッケード反応時間への影響	2007	▼
[Presentation] Effect of maintaining neck flexion posture on excitability of corticospinal pathways -An investigation using transcranial magnetic stimulation	2007	▼
[Presentation] Performance of saccade eye movement and regional cerebral blood flow in the prefrontal cortex in elderly	2007	▼
[Presentation] Training effect of saccade eye movement with neck flexion on reaction time of prosaccade eye movement	2007	▼
[Presentation] Changes in visual, auditory and somatosensory evoked potentials and regional cerebral blood flows of the relevant sensory areas according to neck flexion.	2007	▼
[Presentation] Effect of neck flexion on cortical potentials preceding antisaccade.	2007	▼
[Presentation] Difference in brain activation induced by natural walking and attentive walking.	2007	▼
[Presentation] Effects of neck flexion on P300 and anticipatory postural control associated with arm flexion during standing.	2007	▼
[Presentation] Changes in visual, auditory and somatosensory evoked potentials and regional cerebral blood flows of the relevant sensory areas according to neck flexion	2007	▼
[Presentation] Effect of neck flexion on cortical potentials preceding antisaccade	2007	▼
[Presentation] Difference in brain activation induced by natural walking and attentive walking	2007	▼
[Presentation] Effects of neck flexion on P300 and anticipatory postural control associated with arm flexion during standing	2007	▼
[Presentation] 前頭眼野領域の酸化ヘモグロビン濃度の頸部前屈姿勢保持による変化	2006	▼
[Presentation] Changes in oxy-hemoglobin concentration in the frontal eye field during neck flexion	2006	▼
[Presentation] Effect of neck flexion on EEGs preceding prosaccade and antisaccade	2006	▼
[Presentation] Effects of neck flexion on changes in evoked brain potentials and regional cerebral blood flow with visual, auditory and somatosensory stimuli while maintaining neck flexion	2006	▼
[Presentation] プロサッケードおよびアンチサッケードに先行する脳電位に対する頸部前屈姿勢の影響	2006	▼
[Presentation] 頸部前屈に伴う視覚・聴覚・体性感覚刺激による大脳誘発電位と局所脳血流量の変化	2006	▼
[Presentation] Effects of neck flexion posture on contingent negative variation and anticipatory postural control associated with arm flexion during standing.	2006	▼
[Presentation] Changes in oxy-hemoglobin concentration in the frontal eye field while maintaining neck flexion.	2006	▼
[Presentation] Effects of neck flexion posture on contingent negative variation and anticipatory postural control associated with arm flexion during standing	2006	▼
[Presentation] Changes in oxy-hemoglobin concentration in the frontal eye field while maintaining neck flexion	2006	▼

- [Presentation] 認知症予防訓練効果-視覚記憶課題による 2006 ▾
- [Presentation] 頸部前屈姿勢保持を伴う眼球運動反応トレーニングによる反応時間短縮効果 2006 ▾
- [Presentation] Training effect of visually memory task on dementia 2006 ▾
- [Presentation] Pro-saccade training effect with neck flexion on the saccadic reaction time. 2006 ▾
- [Presentation] Modality of saccade eye movement and regional cerebral blood flow in the prefrontal cortex in elderly 2006 ▾
- [Presentation] 高齢者におけるサッケードの反応様式と前頭葉脳血流量 2006 ▾
- [Presentation] サッケード反応時間の短縮に最適な頸背部筋振動条件 2005 ▾
- [Presentation] Optimal vibration condition of neck extensor muscle for shortening of saccade eye reaction time 2005 ▾
- [Presentation] Effects of neck flexion on contingent negative variation and anticipatory postural control during bilateral arm flexion 2005 ▾
- [Presentation] 頸部前屈姿勢の保持が両側上肢屈曲運動時の予測的姿勢制御及び随伴陰性変動(CNV)に与える影響 2005 ▾
- [Presentation] 床振動時の立位姿勢制御の適応過程における視覚誘発電位と後頭葉局所血流量の変化 2005 ▾
- [Presentation] Changes in visually evoked potential and cerebral blood flow in the occipital lobe during adaptation to postural control while floor oscillation 2005 ▾
- [Presentation] Cerebral blood flow in the process of adaptation of standing posture control to floor oscillation measured by near-infrared spectroscopy 2005 ▾
- [Presentation] Cerebral blood flow in the process of adaptation of standing posture control to floor oscillation measured by near-infrared spectroscopy. 2005 ▾
- [Book] 人間の許容限界事典 2005 ▾
- [Book] 運動・認知機能改善へのアプローチ -子どもと高齢者の健康・体力・脳科学- ▾

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