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Presentation of central motion techniques: limpness motion function and limpness sensory unit function

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Abstract

Central motion techniques are to mention the central-motion by the limpness motion function and limpness sensory unit function on the body. Central body motion is consisted of the limpness central function by the central body system. To evaluate the signal of central body motion, we are investigated a limpness value of the central function by the central body function on the static state. The concept of limpness motion function was checked the reference of limpness motion signal and limpness sensory signal by the central motion body. For assessment on the limpness sensory variation of the maximum and average in terms of central motion from the static function, and limpness value that was a limpness value of the vision condition of the Vi-$\lambda_{MAX\text{-}AVG}$ with 8.71±-3.2 units, that was a limpness value of the vestibular condition of the Ve-$\lambda_{MAX\text{-}AVG}$ with 3.05±-6.52 units, that was a limpness value of the somatosensory condition of the So-$\lambda_{MAX\text{-}AVG}$ with 2.4±1.9 units.

The static sensory motion was made mention of check out at the condition of the limpness sensory unit motion for the comparable values of limpness central motion that was expressed the analysis capacity by the limpness nerve system. Limpness sensory system will be to propose of the minute motion by static central motion situation and was to imply a limpness motion data of static body sensory function.

Keywords: *limpness function, limpness sensory unit motion, static sensory motion, static body sensory function*

1. Introduction

The postural stability is shown a relationship with a history of central motion and/or musculoskeletal function, and the function in facility of action is able to predict motion function. However, dynamic postural stability has made specifically the effect of body in the stirring condition that it difficult to measure current clinical methods and instrumentation for measuring dynamic postural stability [1-2]. This approach is need to correlate with the complex nature of postural stability and the complex control systems during static standing postural control in the limpness motion and neurological action of body [3]. Also, the postural sensory system has to use principally different motor control strategies by the motor function and sensory unit

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function [4].

In this study, the item of central motion techniques is consisted the static central motion with a limpness motion function and limpness sensory unit function. Static central motion is present of the limpness function by the static central system. This system was required to be an assessment of the limpness value by a lanky function that to join on the central function with the central body on the static state. Therefore, we are to be show with a central function for the limpness sensory unit function according to a limpness motion function on the static state.

2. Proposed method of central motion techniques for signal

A. System of central motion signal

The measures of central motion stability score on the SMCB are Overall Stability Index(OSI), Medial–Lateral Stability Index(MLSI) and Anterior–Posterior Stability Index(APSI). These indices are standard deviations that assess the path of sway around the zero point from the center of the platform and are measured in degrees. The stability indexes scores show the foot displacement for motion in sagittal and frontal planes. Within this study, the displacements from horizontal along medial–lateral(ML) axes as x-direction, and from vertical along anterior–posterior (AP)axes as y-direction were evaluated as SMCB -MLSI and SMCB-APSI respectively. The equations for SMCB-OSI, SMCB-MLSI and SMCB-APSI scores are as follows: [5]

The SMCB recorded the foot displacement in the x-direction and y-direction. Then, the system will generate the SMCB-OSI, SMCB-APSI and SMCB-MLSI using the equations above. The SMCB-OSI score was established by combining the degree of tilt for AP and ML axes for limpness motion function(LMF), as this had been suggested as the best balance indicator to measure over all platform balance. The equations for LMF-AP and LMF-ML scores are as follows: [6]

$$\text{SMCB. OSI} = \frac{\sqrt{\sum(0-x)^2 + \sum(0-y)^2}}{S_{mcb}}$$

$$\text{SMCB. MLSI} = \frac{\sqrt{\sum(0-x)^2}}{S_{mcb}}$$

$$\text{SMCB. APSI} = \frac{\sqrt{\sum(0-y)^2}}{S_{mcb}}$$

B. System of central motion signal

The SMCB system was to form the significant model by the static body sensory function(SBSF). Significant of SMCB was shown the minute gently limpness that was similar to a sensory control by the central body techniques(CBT). Controlled minute sensory was integrated in the limpness body sphere that was generated by the central index tool. The arithmetic pattern by SMCB was to form with compound of output parameters by the static nerve unit(SNU) in the body function. The static form by SMCB was to form with compound of output parameters by the static nerve unit(SNU) in the nerve unit function. The central body function(CBF) was generated a static central techniques of x-y direction from center of axial (COA) on the CBT of SMCB. The sensory nerve unit function (SNUF) was generated limpness signal from horizontal-vertical mechanisms on the CBT of SMCB. The SMCB was presented the central function and the sensory nerve function on static sensory motion (SSM). The SSM was occurred to calculate on the minute limpness signal by the static body sensory function (SBSF) (Figure 1) [7-9].

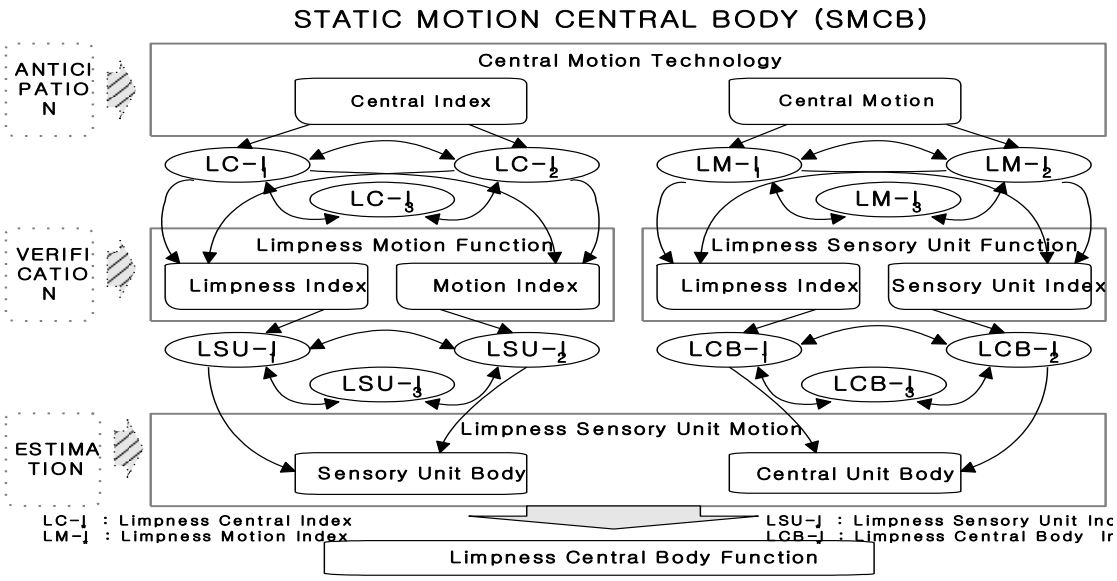

Figure 1. Proposed of the static motion central body system

3. Results and Discussion

A. Comparison Database of LMF-LSUF on the Smcb-$\lambda_{MAX\text{-}MIN}$ and Smcb-$\lambda_{MAX\text{-}AVG}$ and Smcb-$\lambda_{AV\text{-}MIN}$

Static motion central body(SMCB) is to infer the motion form of limpness motion function(LMF) and limpness sensory unit function(LSUF) on the central motion techniques(CMT) condition. CMT was confirmed the using objects of the limpness motion function(LMF) on the Smcb-function. And, CMT is to comput the coordinate things of the limpness sensory unit function(LSUF) on the Smcb-function. The results are analyzed limpness sensory unit motion(LSUM) in according to the parameter of limpness central motion. The experiment is computed an alteration of limpness motion function (LMF) is shown in the limpness function activity. The experiment of Smcb-function was calculated the Smcb-$\lambda_{MAX\text{-}MIN}$, Smcb-$\lambda_{MAX\text{-}AVG}$ and Smcb-$\lambda_{AVG\text{-}MIN}$ database which is collected from the limpness function activity (Table 1). Limpness function data are used Matlab6.1 for the calculations.

Static motion central body(Smcb) on the vision(Vi-λ) condition was to present a limpness motion function - limpness sensory unit function(LMF-LSUF) value for the Smcb-Vi-$\lambda_{MAX\text{-}MIN}$, Smcb-Vi-$\lambda_{MAX\text{-}AVG}$ and Smcb-Vi-$\lambda_{AVG\text{-}MIN}$ (Figure 2).

The very large limpness wavering of the Smcb-Vi-$\lambda_{MAX\text{-}MIN}$ was to the normal direction in the SMCB.

Moreover, Smcb activity of vision-LMF-LSUF was to present the some large limpness wavering to between the Smcb-Vi-$\lambda_{MAX\text{-}AVG}$ and Smcb-Vi-$\lambda_{AVG\text{-}MIN}$ with the same direction in the SMCB. In the Smcb activity of vision-LMF-LSUF was showed very large limpness wavering at 13.36±-6.33 unit with Smcb-Vi-$\lambda_{MAX\text{-}MIN}$ of the limpness wavering function. In the vision-LMF-LSUF of Smcb activity was showed large limpness wavering at 8.71±-3.2 unit with Smcb-Vi-$\lambda_{MAX\text{-}AVG}$ in the SMCB.

Also, this activity of limpness function in the vision-LMF-LSUF was present that a limpness wavering influence was presented the same direction in the SMCB. It was a necessary role in the limpness activities of a vision motion. In the limpness of Smcb activity was computed little large limpness wavering at 4.65±-3.13 unit with Smcb-Vi-λ_{AVG}. The limpness phenomenon of the vision-LMF-LSUF was computed a necessary little to change the SMCB by the limpness wave in the Smcb activity state.

Static body central motion(Smcb) of vestibular(Ve-λ) condition was to present a central body

function-sensory nerve unit function(LMF-LSUF) value for the Smcb-Ve-$\lambda_{MAX-MIN}$, Smcb-Ve-$\lambda_{MAX-AVG}$ and Smcb-Ve-$\lambda_{AVG-MIN}$ (Figure 2). Smcb activity of vestibular-LMF-LSUF was the small limpness wavering to difference between Smcb-Ve-$\lambda_{MAX-MIN}$ and Smcb-Ve-$\lambda_{MAX-AVG}$ with the same direction in the SMCB.

Also, the Smcb activity of vestibular-LMF-LSUF was to present small limpness wavering at Smcb-Ve-$\lambda_{AVG-MIN}$ of the limpness wave function on the same direction in the SMCB. Smcb activity of vestibular-LMF-LSUF was computed small limpness wavering at 5.47±-6.31 unit with Smcb-Ve-$\lambda_{MAX-MIN}$ of the limpness wave function. In the vestibular-LMF-LSUF of Smcb activity was computed small at 3.05±-6.52 unit with Smcb-Ve-$\lambda_{MAX-AVG}$ in the SMCB.

Besides, this activity of limpness wave function in the vestibular-LMF-LSUF was come out that a limpness wavering was presented the same direction in the SMCB. But, it was a necessary role in the limpness activities of a vestibular motion. In the limpness of Smcb activity was computed very large limpness wavering at 2.42±0.21 unit with Smcb-Ve-$\lambda_{AVG-MIN}$ on the same direction. The limpness phenomenon of the vestibular LMF-LSUF was computed a necessary to change the SMCB by the limpness wave in the same direction. The vestibular-LMF-LSUF was appeared little variation of limpness activities than the vision-LMF-LSUF in the Smcb activity state.

Static body central motion(Smcb) of somatosensory(So-λ) condition was to present a central body function-sensory nerve unit function(LMF-LSUF) value for the Smcb-So-$\lambda_{MAX-MIN}$, Smcb-So-$\lambda_{MAX-AVG}$ and Smcb-So-$\lambda_{AVG-MIN}$ (Figure 2). Smcb activity of somatosensory-LMF-LSUF was computed small limpness wavering at Smcb-So-$\lambda_{MAX-MIN}$ and Smcb-So-$\lambda_{MAX-AVG}$ of the limpness wave function on the normal direction in the SMCB.

Moreover, the small difference limpness wavering value of Smcb-So-$\lambda_{AVG-MIN}$ was to the same direction in the SMCB. Smcb activityof somatosensory-LMF-LSUF was computed small limpness wavering at 5.04±6.87 unit with Smcb-So-$\lambda_{MAX-MIN}$ of the limpness wave function. In the somatosensory-LMF-LSUF of Smcb activity was computed small limpness wavering at 2.4±1.9 unit with Smcb-So-$\lambda_{MAX-AVG}$ on the same direction in the SMCB.

Besides, this activity of the small limpness wave function in the somatosensory-LMF-LSUF was come out that a limpness wavering was presented the same direction in the SMCB. But, it was a necessary role in the limpness activities of a somatosensory motion. In the limpness of Smcb activity state was computed small limpness wavering at 2.64±4.97 unit with Smcb-So-$\lambda_{AVG-MIN}$. The limpness phenomenon of the somatosensory-LMF-LSUF was computed a necessary to change the SMCB by the limpness wave in the same direction. The somatosensory-LMF-LSUF was appeared little to appear the SMCB by the limpness activities at the motion.

Table 1. Average of the limpness wave functions: the vision LMF-LSUF (Smcb-λ_{AVG}), vestibular LMF-LSUF (Smcb-λ_{AVG}) and somatosensory LMF-LSUF (Smcb-λ_{AVG}) condition. Average of Smcb-$\lambda_{MAX-MIN}$, Smcb-$\lambda_{MAX-AVG}$ and Smcb-$\lambda_{AVG-MIN}$

Average λ	Vi $\lambda_{Avg-LMF-LSUF}$	Ve $\lambda_{Avg-LMF-LSUF}$	So $\lambda_{Avg-LMF-LSUF}$
Smcb-$\lambda_{MAX-MIN}$	13.36±-6.33	5.47±-6.31	5.04±6.87
Smcb-$\lambda_{MAX-AVG}$	8.71±-3.2	3.05±-6.52	2.4±1.9
Smcb-$\lambda_{AVG-MIN}$	4.65±-3.13	2.42±0.21	2.64±4.97

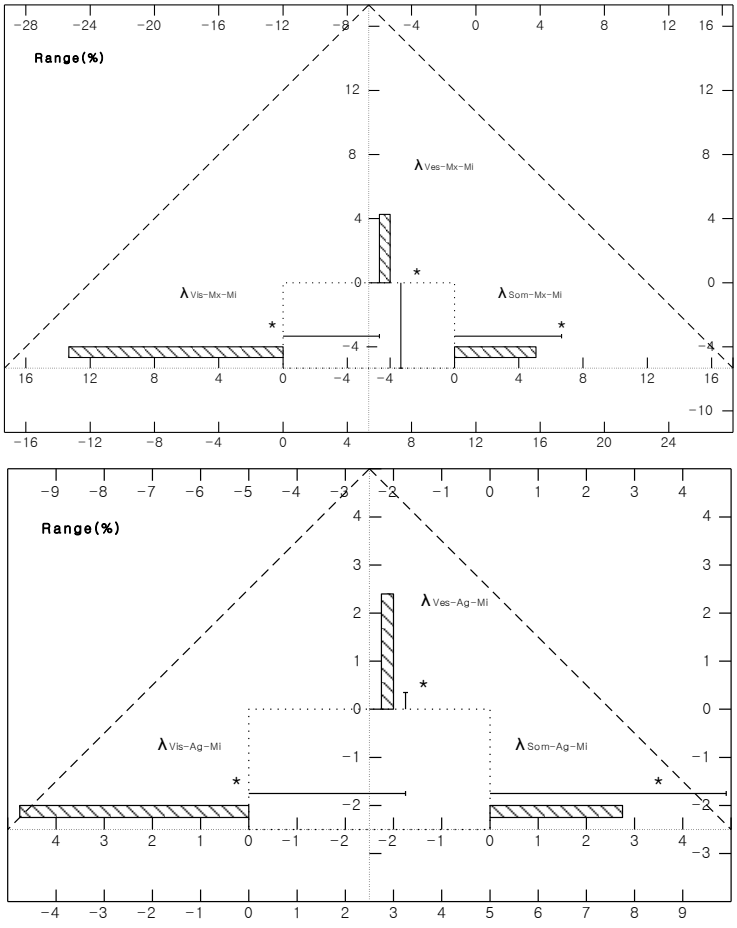

Figure 2: Limpness data of the LMF-LSUF function on the limpness wave condition for activity by the Smcb-$\lambda_{MAX-MIN}$, Smcb-$\lambda_{MAX-AVG}$ and Smcb-$\lambda_{AVG-MIN}$

4. Conclusion

In this paper, central motion techniques were to mention central-motion on the body; such as limpness motion function and limpness sensory unit function. Static sensory motion was made mention of the limpness motion function by the central motion body. The limpness motion function was investigated an assessment of the limpness value by the central motion function on the central body motion. To analysis the signal of Smcb-function was showed the minute motion evaluation by the limpness sensory system. LMF-LSUF was will be infered the evaluation function by the central motion techniques(CMT) condition.

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