

A SITTING DEVICE FOR PREVENTION OF SPINAL DISEASES

FIELD OF THE INVENTION

The present invention relates to a sitting device used for sitting on flat surfaces and that
5 device is able to prevent spinal diseases, such as cervical, thoracic, and lumbar diseases, to occur.

BACKGROUND OF THE INVENTION

Wrong sitting postures lead to many spinal diseases. Sitting in a correct posture means
10 keeping the pelvis in its neutral position, i.e. in the same of its position when a person is standing. When the pelvis is in a neutral position, they allows the spine to stay in its natural curve, meaning the whole body weight is distributed and balanced evenly upon the vertebrates and discs of the spine. As a result, spinal diseases are less likely to happen. However, when sitting on flat surfaces, such as the floor, it is very hard to always
15 sit in a correct posture and it is even harder to do so without any supporting devices; the pelvis tilts forwards or backwards, causing back pain due to excessive pressure and muscle imbalances that occur with pelvic tilt abnormalities. Over time, sitting in wrong postures leads to many spinal diseases such as cervical, thoracic, and lumbar diseases. As a result, the person experiences back, neck and joint pain, tension-headaches, fatigue and
20 stress related conditions, and many other health problems.

In fact, many people have to sit on flat surfaces, such as on the floor, for a long time due to different reasons; for example, to do their work, to meditate, or to attend religious sessions. Without any supporting device, they soon experience back pain and commonly encounter one or some of the spinal diseases mentioned above.

25 Many devices have been invented to provide support when sitting on flat surfaces. However, they do not provide stable support that keeps the pelvis always in its neutral position, the key to sitting in a correct posture. Zafus is one of those. Stuffed with fluffy, soft, downy materials, a zafu raises the hips and partially absorbs the reaction force generated by the floor under the gravity force of the body of a sitter, making sitting in a
30 leg-folding posture or the crossed-legged posture, a.k.a. Lotus sitting posture, more comfortable. However, due to the fluffy materials used, a zafu does not provide a stable

support; the sitter's pelvis can tilt forwards and backwards freely, eventually causing back pain and other spinal problems. US. Pat. No. 6,141,807 discloses an adjustable height pillow that can "encourage proper sitting positions." However, the pillow is stuffed with a soft flexible material, therefore cannot provide a stable support to keep the pelvis always in its neutral position. US. Pat. No. 5,652,983 presents a sit/sleep constructed pillow that can provide comfort when sitting on it. However, it also does not provide stable support that can keep the pelvis in its neutral position.

SUMMARY OF THE INVENTION

It shows that there is a need to invent a device used for sitting on flat surfaces. That sitting device must provide stable support that keeps a sitter's pelvis always in its neutral position, allowing the sitter to stay in a correct sitting posture. The sitting device, therefore, is able to prevent many spinal diseases related to wrong sitting postures including cervical, thoracic, and lumbar diseases. It is an object of the present invention to provide such a sitting device.

According to the invention, the sitting device comprises a padded member, a thin pad extended forwardly from the padded member, and a hard block fully inserted inside the padded member. Looked from the left or the right side, the padded member has a generally right triangular shape, and is made of resilient materials such as foam, rubber, or cotton to make the device comfortable to sit on. The hypotenuse surface of the padded member is undulating ergonomically to ensure extra comfort for the sitter. The area of the hypotenuse surface of the padded member together with the area of the thin pad is wider than the total area of a sitter's buttocks, upper legs, and knees, so that the sitter can sit, in a leg-folding posture, fully on the sitting device without any part of his body touching the flat surface. The hard block is made of a non-resilient material such as wood, polystyrene foam, or hard rubber. The hard block is able to tolerate, without rupturing, the gravity force on a mass of an adult's body with a shape and size similar to those of the adult's buttocks. The hard block is inserted completely inside the right angle area of the padded member. The height of the front side of the hard block is greater than the distance from the lowest point of the sitter's coccyx to the lowest point of his tuberosity of ischium. Both the padded member and the hard block have a flat bottom side to ensure stability.

To use the sitting device properly, a sitter needs to sit in a leg-folding sitting posture; in which, his buttocks are on top of the highest portion of the padded member, his upper legs lie along the hypotenuse surface of the padded member, and both of his left and right lower legs must rest inside the thin pad and fold along the long side of the thin pad and the right one is on top of the left one. Instead, the sitter can also sits in a cross-legged sitting posture a.k.a. Lotus sitting posture. Importantly, the sitter needs to adjust his buttocks so that his sacrum and coccyx are elevated by the top part of the hard block, and his ischium stays close to the front side of the hard block. That way, his pelvis is always “locked” in its neutral position, making the sitter sit in a correct posture which prevents spinal diseases related to wrong sitting postures including cervical, thoracic, and lumbar diseases to occur. If there were no hard block inserted inside the padded member as described, the sitter’s pelvis would tilt freely, leading to wrong sitting postures.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. 1 is a left perspective view of a sitting device for prevention of spinal diseases according to the invention.

FIG. 2 is a right perspective view of the sitting device shown in FIG. 1

FIG. 3 is a cross-sectional view of the sitting device of FIG. 1 along the line A-A’ shown in FIG. 2

FIG. 4 is a cross-sectional view of the sitting device of FIG. 1 along the line B-B’ shown in FIG. 2

FIG. 5 illustrates how to use the pillow of FIG. 1

DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a sitting device that is used for sitting on flat surfaces. The sitting device is able to keep a sitter in a correct sitting posture by keeping his pelvis always in its neutral position.

According to the invention, the sitting device **100**, as shown in **FIG. 1**, comprises a padded member **200**, a thin pad **300** extended forwardly from the padded member **200**, and a hard block **400** fully inserted inside the padded member **200**. Looked from the left side **202L**, indicated in **FIG. 1**, or the right side **202R**, indicated in **FIG. 2**, the padded member **200** has a generally right triangular shape, and is made of resilient materials such as foam, rubber, or cotton to make the device **100** comfortable to sit on. The hypotenuse surface **201** of the padded member **200** is undulating ergonomically to ensure extra comfort for the sitter. The area of the hypotenuse surface **201** of the padded member **200** together with the area of the thin pad **300** is wider than the total area of a sitter's buttocks, upper legs, and knees, so that the sitter can sit fully on the sitting device **100** without any part of his body touching the flat surface. The hard block **400** is made of a non-resilient material such as wood, polystyrene foam, or hard rubber. The hard block **400** is able to tolerate, without rupturing, the gravity force on a mass of an adult's body with a shape and size similar to those of the adult's buttocks. The hard block **400** is inserted completely inside the right angle area of the padded member **200**. The height **H**, indicated in **FIG. 3**, of the front side **403** of the hard block **400**, is greater than the distance from the lowest point of the sitter's coccyx to the lowest point of his tuberosity of ischium. Both the padded member **200** and the hard block **400** have a flat bottom side to ensure stability.

To use the sitting device **100** properly, a sitter needs to sit in a leg-folding sitting posture in which, his buttocks are on top of the highest portion **T**, indicated in **FIG. 3**, of the padded member **200**, his upper legs lie along the hypotenuse surface **201** of the padded member **200**, and both of his left and right lower legs must rest inside the thin pad **300** and fold along the long side **L**, indicated in **FIG. 2**, of the thin pad **300**, and the right one is on top of the left one. Instead, the sitter can also sit in a cross-legged sitting posture a.k.a. Lotus sitting posture. Importantly, the sitter needs to adjust his buttocks so that his sacrum is elevated by the highest area **401**, his coccyx rests on the plateau area **402**, and his ischium stays close to the front side **403** of the hard block **400**. That way, his pelvis is

always “locked” in its neutral position, making the sitter sit in a correct posture which prevents spinal diseases related to wrong sitting postures including cervical, thoracic, and lumbar diseases to occur. If there were no hard block **400** inserted inside the padded member **200** as described, the sitter’s pelvis would tilt freely, leading to wrong sitting postures.

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CLAIM

What is claimed is:

- 5 1. A sitting device for prevention of spinal diseases comprises a padded member, a thin pad extended forwardly from the padded member, and a hard block fully inserted inside the padded member. Looked from the left or the right side, the padded member has a generally right triangular shape, and is made of resilient materials such as foam, rubber, or cotton to make the device comfortable to sit on. The hypotenuse surface of
10 the padded member is undulating ergonomically to ensure extra comfort for the sitter. The area of the hypotenuse surface of the padded member together with the area of the thin pad is wider than the total area of a sitter's buttocks, upper legs, and knees so that the sitter can sit, in a leg-folding posture, fully on the sitting device without any part of his body touching the flat surface. The hard block is made of a non-resilient
15 material such as wood, polystyrene foam, or hard rubber. The hard block is able to tolerate, without rupturing, the gravity force on a mass of an adult's body with a shape and size similar to those of the adult's buttocks. The hard block is inserted completely inside the right angle area of the padded member. The height of the front side of the hard block is greater than the distance from the lowest point of the sitter's coccyx to the lowest point of his tuberosity of ischium. Both the padded member and
20 the hard block have a flat bottom side to ensure stability.
2. To use the sitting device according to claim 1 properly, a sitter needs to sit in a leg-folding sitting posture in which, his buttocks are on top of the highest portion of the padded member, his upper legs lie along the hypotenuse surface of the padded
25 member, and both of his left and right lower legs must rest inside the thin pad and fold along the long side of the thin pad and the right one is on top of the left one. Instead, the sitter can also sit in a cross-legged sitting posture a.k.a. Lotus sitting posture. Importantly, the sitter needs to adjust his buttocks so that his sacrum and coccyx are elevated by the top part of the hard block, and his ischium stays close to
30 the front side of the hard block.