A therapeutic foot rest comprises a resilient foam boot having a base and upstanding side walls defining a cavity for receiving a patient's foot and holding the foot in an upright position, the end wall opposing the sole of the patient's foot being resiliently compressable against the foot board of the patient's bed to enable therapeutic exercise.

5 Claims, 4 Drawing Figures
THERAPEUTIC FOOT REST

BACKGROUND OF THE INVENTION

Following various types of major orthopedic surgery involving the leg or the hip, it is often necessary that the patient's foot be stabilized in an upright position and prevented from turning to the side with the patient lying on his back, since the patient's muscles, tendons and ligaments are frequently so affected by the surgery that the patient is unable to hold his leg in a desired position.

Examples of such orthopedic surgery are implants in hips, knees, ankles or other operations wherein substantial separation of muscles and tendons is necessary in order for the surgeon to have access to the joint or other region where the surgery is being performed.

Typically, as post operative treatment, various forms of foot rests are provided which are intended to maintain the patient's foot in an upright position during the initial period required for partial healing of the muscle and tendon separation, before the patient has control of the affected leg. Shortly following such surgery, the therapeutic exercise involves the patient applying pressure against the foot board of his bed numerous times per day, say 500, for example, in order to commence the restrengthening of the leg so that the patient will have control of the leg. For this latter purpose, it is common practice to provide a length of resilient material, such as urethane foam, constituting a resilient cushion at the foot of the bed which reacts against the pressure applied by the patient.

Frequently, it is a tendency of the foot rests to become dislocated from the patient's foot, and the patient's heel becomes sore, not only due to the long period of confinement in bed, but also due to the rubbing of the heel on the bed or in the support for the foot during therapeutic exercises.

SUMMARY OF THE INVENTION

The present invention provides a novel, therapeutic foot rest which easily attaches to the foot, it comfortable in use, positively holds the foot in an upright position and affords a cushion for therapeutic exercise of the leg.

More particularly, the invention provides a soft, resilient, yet stable boot-like body adapted to be applied to the foot of a patient and provides a foot rest portion underlyng the heel and tendon region of the ankle with the foot extending upright in a cavity affording abundant space for circulation of air, yet constraining the foot in an upright position so that the foot and the leg extending to the hip region are prevented from rotating in cases where the patient's muscles and tendons have been so impaired that the patient cannot maintain the foot and leg in a stable position.

In addition, an end wall of the boot opposing the sole of the foot is adapted to be placed against the foot board or other rigid surface located at the foot of the bed against which the patient may press the sole of the foot as a matter of therapy to assist in strengthening the muscles.

In its preferred form, the foot rest or boot is composed of urethane foam consisting of layers of different densities, including a first layer having an ankle receiving opening of relatively low density foam so as to be comfortable and to resiliently support the tendon region adjacent the ankle, an intermediate layer which defines the foot cavity of relatively low density to provide a soft cushion for the heel, and a third layer forming the sole of the boot or support of greater density against which the patient's foot can be pressed to provide a resilient reaction for therapy as referred to above. The ankle receiving layer and the foot cavity forming layers are vertically split to afford ease of application of the boot to the patient's foot without causing discomfort, as well as to allow circulation of air around the patient's foot.

This invention possesses many other advantages, and has other purposes which may be made more clearly apparent from a consideration of the form in which it may be embodied. This form is shown in the drawings accompanying and forming part of the present specification. They will now be described in detail, for the purpose of illustrating the general principals of the invention; but it is to be understood that such detailed descriptions are not to be taken in a limiting sense.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view illustrating a therapeutic foot rest made in accordance with the invention;

FIG. 2 is a front elevation thereof with a fragmentary portion broken away;

FIG. 3 is a vertical section as taken on the line 3—3 of FIG. 2, showing the foot rest applied to a patient's foot and leg; and

FIG. 4 is a perspective view illustrating the foot rest in a stretched open condition facilitating reception of the patient's foot and ankle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As seen in the drawings, the therapeutic foot rest comprises a body of resilient foam material comprising a flat base wall 1 adapted to rest upon a bed 2 to provide a stable support for the upstanding body section of the foot rest.

Within the foot rest body is a central cavity 3 extending vertically for receiving the patient's toes, and of generally frusto-conical form as seen in FIG. 2, so that the patient's toes are substantially confined by the relatively narrow side walls adjacent to the top of the cavity 3 to prevent lateral movement of the foot, while the wider, lower portion of the cavity 3 affords space for circulation of air. The foot rest body has a circular opening 4 for receiving and resiliently constraining the patient's ankle against lateral movement. The body is vertically split at 5 above the opening 4, the split extending at 6 into the mid-section of the body so that the body is also split at the top of the cavity 3. The inner wall 7 of the body defining the cavity 3 opposes the sole of the foot of the patient and the resilient body material is adapted to be pressed against a foot board or other rigid member 8 to enable therapeutic exercise.

In its preferred form, the body is composed of three separate pieces of resilient material, such as three layers of urethane foam, consisting of a first outer layer A, an intermediate layer B and another outer layer C. The first outer layer A is of relatively low density foam so that the rest or pad section 9 on which the patient's tendon region rests is soft and comfortable. Internally of the pad section 9, the intermediate layer B provides a heel pad section 10 on which the patient's heel may rest somewhat, but in general, the predominance of the weight will be supported by the pad section 9. The pad
section 10 is at a lower elevation to provide a depression for receiving the heel to prevent heel sores. The intermediate layer B is also preferably composed of foam of relatively low density. The outer layer C is preferably composed of relatively high density foam to provide resilient reaction to foot pressure applied by the patient during therapeutic exercise.

Urethane foam is an ideal material for the foot rest in that the foam permits the circulation of air, so that although the patient's foot is effectively confined it will remain relatively cool and well ventilated. Ventilation is enhanced by the fact that the intermediate layer B is split as at 6, and when the patient presses against the cavity wall 7, the body will yield and open somewhat in the region of the splits 5 and 6, reclosing when pressure is relaxed, thereby inducing air flow. The foam layers are preferably die cut and cemented together rather than resorting to a molding process, thereby avoiding impairment of the inherent permeability of the foam material.

In addition, the urethan foam is easily flexed so that the foot rest can be widely opened at the splits 5 and 6 to enable the foot rest to be applied to a patient’s foot and ankle easily without causing pain to the patient.

I claim:

1. A therapeutic foot rest comprising: a body of resilient foam material having a flat base wall, a foot receiving cavity within said body, said body being composed of an outer layer of foam material defining said opening, an intermediate layer of foam material defining said cavity and a third layer of foam material forming the end wall of said cavity said layers being bonded together to form an ankle receiving opening leading into said cavity from one side of said body, said body being vertically split above said opening in at least the outer layer but not extending through said third layer to allow said body to be opened to receive the foot and ankle of a patient.

2. A therapeutic foot rest as defined in claim 1, wherein said intermediate layer is also split above said cavity.

3. A therapeutic foot rest as defined in claim 1, said first outer layer and said intermediate layer being composed of foam material of lesser density than said third outer layer.

4. A therapeutic foot rest as defined in claim 1, said layers of foam material being die cut and permeable to air.

5. A therapeutic foot rest as defined in claim 1, wherein said cavity is defined by relatively narrow upper toe restraining wall sections and relatively wider lower wall sections.

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