Guidelines for the use of the Orthoflex Universal Foot and Ankle Brace (UFAB):

Please study these guidelines carefully before using the UFAB: Prof Daniel Reis.

General:

The UFAB can be inflated to 760 mm Hg pressure. However this is never necessary: at 200-250 mm Hg the UFAB is stiff enough for passive support of the ankle at 90 degrees plantigrade, even without applying the plantigrade straps. When it is necessary to limit active plantar flexion the plantigrade straps must be used.
The treating physician, surgeon, or paramedic decides whether more or less stiffness is indicated for the particular condition requiring UFAB support. To assess stiffness and the degree of inflation required, the UFAB is tested during inflation by squeezing the tubes and assessing the ease of bending of the splint at its ankle location. The type and degree of inner padding required is also determined according to the condition being treated. The air pressure within the UFAB is well maintained over time and should not require any replenishment during the use in a single patient. However after two weeks, or if there is a leak from the valve because it was inadvertently compressed, the pressure can be increased back to the required stiffness at any time by using the hand bulb pump. The valve should always be pressed in so as not to protrude from the side of the splint. Then inadvertent escape of air is avoided. Many methods are available for the initial inflation and all are legitimate; the most convenient should be used. Over-inflation is present if the pressed–in valve extrudes spontaneously.
The pressure should then be reduced by squeezing the sides of the one way valve.

Emergency and Accident:

Foot and Ankle First Aid and definitive treatment of injuries:
On site first aid in the field at the site of an accident causing an injury to the foot or ankle: the splint is inflated to full stiffness. The injured foot and ankle is placed gently in the splint (shoes and socks and trousers are not removed). Padding is not essential but the heel lift attached padding is preferred. The straps are tightened firmly including the plantigrade straps. An open wound must first be dressed. If suitable sterile dressings are not available the "nappy" padding is the next best alternative. If the casualty is conscious, degree of comfort feed back from him is useful to achieve the optimal tightness of the straps. Ideally evacuation is by any means avoiding weight bearing on the injured limb. However if
necessary the casualty may walk on the UFAB: avoid sharp objects on the ground.
In the ER the UFAB is not removed but retained for transport within the hospital to X-ray, ward, OR, etc. If the injury is such as not requiring surgery nor rigid fixation for maintaining the reduction of a displaced fracture, definitive support in the UFAB can be continued (minor foot fractures, foot wounds, fracture calcaneus not for operation, crush foot, etc) after removing the footwear and clothing and using the built-in padding.

If the injury requires surgery such as internal fixation of a fracture, a "nappy" padded UFAB is indicated as the post-operative temporary support which ensures plantigrade positioning, easy change of dressings, early movement option, and patient comfort, avoiding post operative plaster of Paris. Once swelling has receded and the stitches are out, the treating surgeon applies a plaster of Paris if rigid fixation or non-removable protection is needed.

Fracture of the neck of the femur.
In pertrochanteric, subtrochanteric, and Garden type III and IV sub-capital fractures the leg lies in an external rotation deformity.
The well padded UFAB plus *outrigger* is applied at the site of the fall by the ambulance paramedic, or on arriving at the ER, by the trauma nurse or doctor, or failing these, on admission to the ward. The task of the UFAB with the outrigger is to correct the rotation deformity and prevent pressure on the heel and lateral malleolus: pain is much reduced and transport to and within the hospital and nursing are facilitated. The UFAB is removed in the OR and its continued post-operative use is optional.

Fracture of the shaft of the femur.

The famous classical Thomas splint which allows for traction in cases of femoral fractures is hardly used anymore because of its bulky size, difficulty of application, and the rapidity of modern casualty evacuation, which has made long term first aid splinting for fracture of the femur a rarity. Ordinary long leg splints cannot control a femur shaft fracture and therefore the usual treatment given is strapping the injured to the intact leg. However this does not correct the external rotation of the leg. Therefore UFAB plus outrigger is applied, much reducing pain and facilitating transport.

Intensive Care.

Many patients lying unconscious in intensive care departments (general or neurosurgical) require foot and ankle splinting to preserve a plantigrade position of the ankles to prevent heel cord contracture and at the same time prevent pressure sores on the heel and other pressure points on the foot and ankle. These splints must be removed frequently (at least daily) for washing, foot and ankle inspection, and passive motion physiotherapy. Therefore splint application in this situation must be convenient, rapid, achievable with one pair of hands by a single attendant, as well as efficient in achieving the above requirements. Then excellent staff compliance can be expected.

The well padded UFAB is ideal for this purpose. Extreme care must be exercised in foot and ankle care in the intensive care situation.

Application of the padded UFAB must be meticulous ensuring that no pressure points exist on the limb within the splint: plantigrade straps are usually not required and great care with strap tightening ensures that excessive pressure is avoided.

For spastic feet in the neurosurgical intensive care the well padded UFAB is inflated only to that elasticity which allows the splint to conform to the equinus position of the ankle. No attempt should be made to force the spastic foot into a plantigrade position since this may result in creating a pressure sore.

When constant intermittent pressure sleeves are in use the UFAS fits convenitly over them.

Post traumatic and elective Foot and Ankle Surgery

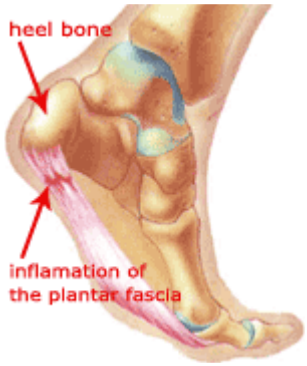
Further to the use of the UFAB pre and post operatively after the internal fixation of fractures, its application after elective foot and ankle operations is convenient and indicated: this may be as a temporary splint until swelling has receded and a definitive plaster is applied, saving much OP and nursing time, or as a permanent support and protection for forefoot procedures such as hallux valgus and Weil osteotomies allowing immediate guarded walking.

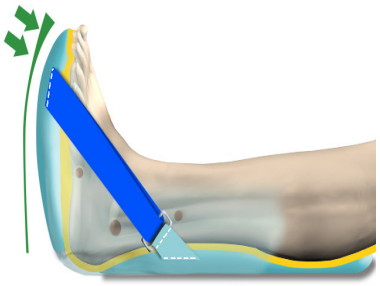
Diabetic Foot Care

The diabetic foot is prone to neuropathic and ischemic pressure ulcers and gangrene. Conservative or surgical treatment requires gentle support for the foot and ankle without any pressure points. The Orthoflex UFAB, softly inflated and padded for total heel and foot pressure point protection, and using the absorbative "nappy" insert is an ideal support for these difficult cases whilst wound healing is in progress.

Plantar Fasciitis and Heel Spurs.

1. During an attack of heel pain the UFAB is worn immediately as a house slipper on rising in the morning to alleviate the sharp "first steps" pain so characteristic of PF and then again in the evening on coming home or at any time the patient is at home.
2. During the night the UFAS is worn as a night planter fascia stretcher: the plantigrade/dorsiflexion straps are tightened as much as sleep comfort allows.





The night stretching is dynamic-elastic and not static as in currently used night splints.

Guidelines for the use of the Orthoflex Long Leg Brace (LLB)

Emergency and Accident First Aid

The LLB is indicated for the support of all injuries of the lower limb up to just above the knee. The low volume feather light package and rapid application is ideal for ambulances, helicopters, and rescue team kits. It is quickly inflated to stiffness at 200-250 mm Hg pressure. The special click-clacks or zipper harness makes for very fast fitting by one pair of hands (no help needed from second person).

The LLB is applied over the footwear and clothing. Open wounds must be dressed first if suitable sterile materials are available. Alternatively a special "nappy" padding is available. The LLB inflated structure allows for shock absorption of the jolting forces during transport.

The Orthoflex Long Leg Brace is also very convenient for post operative support after internal fixations of tibial injuries.