Product Of The Month

Hill-Rom Clinitron Air Fluidised Bed

Electric bed frames & air mattresses are used around the hospital to help prevent or treat bedsores and skin conditions. However, some patients are admitted with severe pressure sores (bed sores) or have sustained injuries requiring the need for skin grafting. For these patients a more specialised form of treatment is required to help meet their clinical needs. One of the products available that can be used to help promote wound healing is the air-fluidised bed.

By John Riddle

Overview

Derived from the Greek word for bed, “Cline” and “tron” referring to a special device, the word “Clinitron” has always been associated with the Air fluidised “special” bed.

When asleep at night, you constantly change position to ensure that you don’t become uncomfortable and sore. If you were a patient in hospital and couldn’t move due to an injury or a painful condition, you would need a sleep surface that remained comfortable all the time whilst you remained in one position. Then combine that with a warm environment to promote blood flow and with very little pressure against the sore or wound, and you have the product we are featuring this month, the “Clinitron” Air Fluidised bed.

Use

First designed for the treatment of burns, the ideal wound healing environment proved to be the perfect support for patients who required skin grafting. After surgery the patient could lie directly on the grafted area without any damage occurring whilst the low pressure and warmth would actively assist the area to heal. Patients in a lot of pain or with a skin condition also used this product, but the majority of people placed upon it have the type of pressure sore that has been difficult to heal due to muscle layers and even bone being involved as the skin deteriorated. This type of sore is usually found at the point where we have bony prominences that lie just under the skin (thigh, elbow, heel or at the base of the spine).

Differences in the way that burns patients are now treated mean that these beds don’t always get used for that type of patient, but many hospitals that have a burns unit, usually have their own Air Fluidised bed.

Where are they found?

These beds are usually on Intensive care units, burns units and more often in the health care of the elderly, where they are used to treat frail patients admitted with large bed sores.

How it works

The bed is essentially a large tank full of very small glass beads, with a hydraulic backrest attached to it. The tank sits on top of a large blower that draws air in and blows it out, under, and through the beads. These beads are coated in silicone and as the air passes between them, they glide over each other and resemble a fluid. When the unit is switched on and the air flows through the beads they begin to “fluidise”. The patient will then sink in a little way until he reaches the point where he starts to float (referred to as reaching buoyancy). The patient is separated from the beads by a specially fitted sheet that will allow the air to pass through whilst containing the beads within. Many people refer to the Air fluidised unit as a waterbed, but there’s actually no water involved at all, an important factor in an emergency situation. Should the patient sustain a heart attack whilst on the unit, switching the bed off provides a firm base for treatment. This is the reason why many waterbeds, first used for pressure relief in hospitals, were found to be unsafe in an emergency situation - staff couldn’t resuscitate patients effectively as they simply bounced around when cardiac massage was being performed.

Resting on an Air Fluidised bed is the nearest thing to weightlessness anyone could ever experience. Even when switched off, the bed is very comfortable because all of the beads form around the contours of the patient making a perfect mould of their own shape. It is easy to see how this product would prove invaluable in the management of the very poorly patient with a bad sore, burn or skin condition.

Like to know more?

This product is normally brought into the hospital after the tissue viability nurses and the specialist Hill –Rom nurse have assessed a patient’s clinical needs. If you have a patient that you fell may benefit from it, contact your tissue viability service or the Hill-Rom nurse and they will give you all the appropriate advice and guidance.

The Hill-Rom nurse can be contacted on 42087.

MESU maintenance fact file

- **Replacement cost**: £12,000
- **Maintenance requirements**: These beds are maintained by Hill-Rom as part of the Total Bed Management contract. Air filters are changed every month, filter sheets are replaced regularly, beads are heat decontaminated between patients to prevent cross infection, beads are checked for wear and tear, all hard surfaces are decontaminated, functional and electrical safety tests prior to installation
- **Common problems**: Polyester filter sheet can puncture sometimes. Inadequate room ventilation can cause the unit to run slightly above the set temperature
- Oil based creams (e.g. Flamazine) are known to affect bead performance if they pass through the fitted sheet