Good example of research paper on giraffe omnibed

Introduction

Giraffe OmniBed is new medical technological device which brings together the features of a radiant warmer as well as an incubator. These top features are harmonized in a single device to make it a very effective medical device. The two features of a Giraffe OmniBed cater for traditional infant care products, and this makes the device pivotal in the medical industry. The device is manufactured and assembled in such a way as to minimize heat loss as much as possible. This also ensures thermal stability through its bi-directional characteristics. The design of this medical device helps the infant to get the optimal amount of heat irrespective of the position it takes in the device (" GE Giraffe OmniBed Incubator and Warmer.").

Furthermore, it is imperative to consider that the Giraffe OmniBed includes every feature that characterizes an incubator and radiant warmer. It features a super-easy way to transform from one form to another. One can easily make the transition as per requisite by touching a switch. One major perk of this device includes air and baby skin temperature control as well as integral humidification in the incubator mode. This ensures that it is always kept at a temperature optimal for the baby's skin. Additionally, the radiant warmer mode includes the baby skin temperature control and manual heater control (" Neonatal Incubator.").

Sensors

Giraffe OmniBed sensors are an important part of the device used in detecting physical stimuli such as temperature, humidity and so forth. Thus, different kinds of sensors are used in the device. These include relative

humidity sensors, temperature sensors, air flow sensors and so forth. The sensors work perfectly to ensure the effective operation of the device. For instance, the baby's skin temperature sensor indicates the temperature of the baby's skin when kept in the device.

While operation starts up, it is important to attach the sensor to the baby and plug it into the panel. When attaching the sensor to the baby, it is significant to follow the manufacturer's instruction carefully. The skin temperature of the baby is displayed on the left side of this control panel when the skin sensor is attached to the baby. More so, one can also attach two skin sensors to the baby in order to read the temperatures of different parts of the baby's body. On the other hand, the two sensors can be attached to two babies at the same time (" Neonatal Incubator.."). The sensors are not designed to be frequently manipulated and could be damaged due to improper handling. This is because temperature sensor connectors are put in place in order to prevent such accidental damage from taking place.

Actuators

Giraffe OmniBed functions effectively because of its actuators. The control panel comprises buttons, located at the left-hand side and temperature adjustment indicators, located at the right-hand side. The tactile membrane in the control panel contains seven buttons, and these buttons help in the selection of the temperature control modes. Besides each button, small indicators are located which show the option that the user selects for the button. Indicators are also essential in detecting faults in the circuitry. The

indicator lights show up, and a tone sounds when a fault is detected. Some of the indicators available for this device include air mode indicator, greater than 37oC indicator, baby mode indicator, manual mode indicator, boost air curtain indicator and so forth. (" Neonatal Incubator..").

Another important actuator in the Giraffe OmniBed is the motor. As the name implies, the motor is responsible for the operation of the device. It can be defined as the powerhouse of the device. The motor drive is used in raising and lowering the canopy or the bed. However, it is imperative to observe that the motor drive can tend to fail. When it does fail, this operation can no longer be carried out but the device can still be used in its current operating mode (" Giraffe OmniBed Operator's Manual").

Microprocessors/Microcontrollers/Microcomputers

Microprocessors are controllers consisting of central chips encoded in a particular manner in order to determine the operation of the device. It is primarily responsible for making decisions and evaluation information supplied to it. The microprocessor software monitors the functionality of the actuators such as alarms during the normal operation of the device. In the case of any fault in the system, the system uses the indicator lights and a tone to show it (" Giraffe OmniBed Operator's Manual"). However, the microprocessor, like any other part of the system can as well damage. If the electronic devices of the microprocessor are not properly handled, the probability of device damage is high. That is why it is imperative to employ the manufacturer's instruction carefully when dissembling the device.

Conclusion

Giraffe OmniBed is a top notch and complex medical device that has both pros and cons. Some of the pros of this device are: it includes both incubators and radiant warmer for infants in the unit; the compartment and options include uniform central thermal environment, relative humidity option and so forth. The cons of the device include: because of its design and structure, it is easy for the equipment to collide with other equipment on raising the canopy. Therefore, care must be taken to avoid this. Furthermore, the device is expensive to purchase, and it also have a very difficult to open water reservoir. Giraffe OmniBed is obviously a complex device because of the compartments that constitute it. Only one of the capabilities of the device can be used per time. Thus, it is either one use the inhibitor or the radiant warmer. The switch makes transition very possible and easy.

Work Cited

" GE Giraffe OmniBed Incubator and Warmer." DRE, Web. 22 Nov. 2014. .

" Giraffe OmniBed Operator's Manual." Ohmeda Medical, n. d. Web. 22 Nov 2014. .

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