



Transferring the Patient from Stretcher to Bed

Sethuraman. T¹, Jagan. V², Jaya Shivaraj. S³
M.Tech¹, Student^{2,3}

Department of Mechanical Engineering
IFET College of Engineering, Villupuram, Tamilnadu, India

Abstract:

Bed and stretcher are very commonly used in the hospitals. This design here, is a modified bed for transferring patients depending on the needs. This machine can be used to transferring the patient from bed to stretcher. This can be accessed manually. This making it easier to access the patient with less effort and transporting. This mechanism makes it easier to moving the objects. The number of patients in world is increasing day by day. So in hospitals patients need to be shifted from wheelchair to stretcher, stretcher to beds, bed to wheelchair which creates unsafe conditions for patients. There is a need for a machine for transferring patient from bed to stretcher.

Keywords: Stretcher, bed, patients, hospitals.

1. INTRODUCTION

Patient transferring can prove to be difficult to patients with spinal injury or patients who have undergone Ortho surgery. Transferring them in the sitting posture can prove to be more difficult for them. Two or more nurses will be required to lift them from bed and place them onto the Stretcher. Hence it also proves to be a tedious job for the nurses. Therefore, there is a need for equipment that helps in transferring of patients within a hospital. Some of the main products that exist in the market are the sliding mats and sliding sheets. Both these require a change in patient's posture which will result to be difficult for them. Also the stretcher and the bed should be of the same height. Some of the advanced products that exist in the market are Barton wheel chair and Hoyer's lift. Hoyer's lift only allows the transfer of patient in sitting posture. While the Barton wheel chair allows horizontal transfer of patients, but still needs the sliding sheet/mat and the bed and the wheel chair should be of the same height.



Figure.1. Stretcher

2. LITERATURE REVIEW

K. Kakutani[1] they done the transfer supporting equipment lifts the sick and disabled from beds, and transports them to the bathroom, toilet or elsewhere. At present, such nursing tasks are almost always manually performed, but the awkward positions involved put tremendous physical strain on the attendants. The equipment described not only takes the load off nurses, but restores the mobility of the sick and handicapped. Its superb nursing capability will become invaluable to the aged society in Japan. We developed the patient-care robot under a joint commission from the NEDO and the AIST-MITI. And now, to advance the reliability and simplification of this

robot system, we are developing a transfer supporting equipment for a popular utility.

D. Takaoka [2] Nursing tasks such as lifting the sick and disabled from beds, and transporting them to other places in the hospitals and the welfare institutes are almost always manually performed by nurses. We have developed the transfer supporting equipment to set the nurses from these tasks as one of the development works promoted by Elderly Service Providers Association. The equipment can lift a bedridden person by inserting and extracting plates between the body and bed. The plates are moved by means of the motors driven by the signal transmitted when the operator push or pulling the control bar attached to the equipment. When the power assist control is applied, the insertion of the plate and drawing up of the object can be performed smoothly and completed with small operating power.

3. COMPONENTS

- AC MOTOR
- PULLEY
- BELT
- PLY WOODS
- SHAFT
- NUTS & BOLT

4. DESIGN DIAGRAM



Figure.2. Conceptual Design

5. WORKING

The working method of our project is the patient can be transferred from the wheelchair to stretcher and stretcher to bed, otherwise in reverse. The stretcher can be operated or changed into wheel chair mode. It can be operated by two ways. The stretcher to bed can be operated by using the conveyor mechanism. The belt can be connected to bed and stretcher, the motor is connected to rod. The motor is operated the rod and rotates and the belt can move the patient from the bed to stretcher or stretcher to bed. After transferring of patient, the belt can be removed. This process is repeated based on the usage.



6. ADVANTAGES

- Increases the comfort level of patient and patient handling staff.
- Prevent damages to patient while transferring from stretcher to bed.
- Occupy less space.
- Easily transfer from stretcher to bed & vice versa.
- Emergency & serious patients who should not be moved or disturbed from their position can be shifted.

7. CONCLUSION

The mechanism is designed and developed in order to reduce the human fatigue. Wheelchairs are now considered not only means of transportation but also as a way to allow users to express their individuality. Also allowing the helper of nurse to ease in handling the patient in several cases. When the patient is required to transfer from stretcher to bed from one place to hospital or any other place it becomes very difficult by nursing staff as well as patient also. Due to the transferring from stretcher to bed or wheel chair to stretcher or vice versa, stresses are developed in the body of patient and as well as nursing. The above problems which are generated at the timing of patient transferring from stretcher to bed can be eliminated by developing new design of stretcher bed which can operated easily. This design has many more features that can be helpful for the patient as well as the nursing staffs. Also we have understood that there are many scope for future improvements.

8. REFERENCE

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