

# Effect of On Body Personal Lift Assist Device on Lifting Velocity during A Single Lift in Manual Material Handlers - Original Research

Sameeksha Rajore\*, Shyam Krishnan K, Ashish John Prabhakar, Megha

Kasturba Medical College, MAHE, Mangalore, Karnataka

\*Corresponding author

## ABSTRACT

**Introduction:** An On body personal lift assist device (OBPLAD) is a non-motorised, passive device in which the elastic elements act as an external muscle power generator. The current study is being done to evaluate the effect of an on body personal lift assist device on the lifting velocity in manual material handlers

**Methods:** Subjects were asked to lift and load a box weighing 10% of their body weight from the floor to a desk which was set at their waist height, meanwhile the motion being recorded from 2 planes (frontal and sagittal) using two tripod mounted cameras. The task was repeated under two conditions: (1) wearing an OBPLAD (2) not wearing an OBPLAD. The recorded videos were analysed using KINOVEA software to estimate the velocity of it.

**Results:** It was found that the velocity of lift was compared across the test conditions using WILCOXIN sign rank test and the preliminary findings indicate that the use of an OBPLAD doesn't affect lift velocity significantly.

**Conclusion:** The use of an OBPLAD doesn't affect lift velocity significantly.

**Keywords:** OBPLAD, Lifting, Velocity, Manual material handlers

