PRE-MEDICAL ASSESSMENT FOR ENSURING WORK AT HEIGHT FITNESS

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ABSTRACT

One of the leading causes of fatalities and serious injuries is working at heights. Falls from ladders and through fragile surfaces are frequent occurrences. One of the most frequent reasons for fatal and catastrophic workplace accidents is falls. The safety guideline aims to ensure safety while working at height (more than 1.8 meters) and protection from falling. The pre-assessment of employees is done to make sure that the workers are capable of working at height in order to prevent any unintended accidents or incidents because working at height is one of the riskiest operations in the business. In this project, we have implemented the premedical assessment for work at height operations to identify vertigo and acrophobia among employees who perform or intend to perform work at height. We have conducted a series of tests such as the Romberg test, the heel-knee test, the tandem gait test, and the nystagmus test. By conducting a vertigo test, it is to know or confirm the employee's capability in terms of height phobia, which is very important to avoid any untoward incident or accident.

Keywords: Vertigo, Acrophobia, Romberg, Height Phobia, Nystagmus.

I. INTRODUCTION

The aim of the project is to implement pre-employment assessment for employees working at heights through a vertigo test and a series of medical examinations. The purpose of the vertigo test is to know or confirm the workmen’s capability in terms of height phobia, which is very important to avoid any untoward incident or accident. The majority of contract employees are unfamiliar with dangerous jobs such as working at heights and have never been exposed to them before; by administering this test, the right person will be chosen for the right job, enhancing worker safety and eliminating falls from height injuries.

II. METHODOLOGY

Procedure for Undergoing Vertigo Test Model:

1. A person has to undergo training in the height work training module in the Skill Development Center (SDC) and get certified in the induction form by the SDC incharge.
2. Along with the induction form, he or she has to carry a height work experience certificate issued by their contractor to the occupational health center to undergo a vertigo test.
3. A pre-test examination must be done before a person undergoes the vertigo test to establish a baseline.
4. He or she has to wear the safety harness properly before starting the test using the vertigo model.
5. He or she has to climb onto the structure by using a ladder.
6. Once reaching the elevated platform, he or she has to anchor the safety harness lanyard to the anchoring point.
7. After anchoring the lanyard, he or she has to walk back and forth twice on the platform.
8. He/she then allowed getting down from the elevated platform after removing the lanyard from the anchoring point by using a ladder.
9. Post-test evaluation is done, and the status of physical fitness to perform height work is given by the factory medical officer.
10. When the fitness to perform height work is obtained, the EHS incharge will issue the Height Work Pass.
11. In the matter of fitness, the decision of the factory medical officer stands final.

**Roles and responsibilities**

Implementation of this Procedure: User Department and EHS Department

Identifying Persons for Height Work: User Department

Physical fitness for height Work: Factory Medical Officer

Authorizing Height Work Pass: EHS Incharge

### III. VERTIGO TEST MODEL

**Brief Description of model:**

- In refineries, one of the critical job is working at height which requires a worker to be physically fit.
- Even after medical fitness test, accident takes place by fall from height due to height sickness as personal factor.
- For double check on medical fitness certificate before actual start of height job a Vertigo Test Model was developed for simulation.
- Created temporary structures & trial taken on test model.

![Figure 1: Pre-medical assessment process flow](image)

![Figure 2: Vertigo test model](image)
IV. RESULTS AND DISCUSSION

Upon obtaining the Fitness to perform height work, EHS in charge will issue the Height Work Pass. In the matter of fitness, Decision of Factory medical Officer stands final.

Validity of Height Pass:
1. Height Pass is valid for 3 months until otherwise stated by Factory Medical Officer & EHS Incharge.
2. Height pass has to be renewed within a week of expiry date by undergoing Vertigo test procedure as above. Renewal of Height pass is subject to Fitness.
3. After obtaining fitness, Height pass renewal to be obtained from EHS Incharge.
4. In case of Safety Violation, number of violation count is marked in Height Pass and cancellation of pass is based on the criticality of violation as per Penalty Policy for Safety violation.

V. CONCLUSION

Advantages of use of vertigo testing model:
It is significant because of following advantages:
1) By conducting vertigo test it is to know/confirm the workmen capability in terms of height phobia which is very important to avoid any untoward incident/accident.
2) Immediate fitness check prior to deploy in Critical job of Working at Height.
3) Proactive system of safety awareness for Workers engaged in project, shutdown, maintenance etc.
4) During vertigo test before and after checking the medical parameter like BP, SPO2, PULSE rate etc. which confirms whether person is fit for working at job or not.
5) During testing if Doctor declares unfit for WAH job then eliminate the people and act as per Doctor Advice.
6) The majority of contract employees are unfamiliar with dangerous jobs like working at heights and never exposed in past by conducting this test right person will be chosen for the right job which will enhance the safety among contract workers and eliminate the fall from height injury.

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VI. REFERENCES