

Managing risk by cognitive ergonomics in design – safety of automatic sliding glass doors in healthcare facilities

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AIM To use a case study of a patient incident to investigate ways to minimise the risk of collision injury when using automatic sliding glass doors in healthcare facilities.



METHODOLOGY

An ambulant patient collided with an automatic sliding glass door at a healthcare facility, sustaining a cut to the forehead. The case study was evaluated using the following methodology:

- ✓ Use of cause testing to target the probable root cause of the incident;
- ✓ Evaluate the cognitive ergonomics related to door design to minimise the risk of such incidents.

RESULT

Through the cause testing technique, it was found that the **door visibility was the critical root cause of the incident.**

Using cognitive ergonomics, the following interventions were recommended

- ✓ Increase the proportion of non-clear elements on the glass door with the minimum being that which is recommended in the Code of Accessibility of the Built Environment, 2013
- ✓ Modify the surrounding environment to warn of the approaching doorway

CONCLUSION

The behaviour of the patient in the incident was one of the contributing factors of his colliding with the door.

Cognitive ergonomics through door design enhancements was used as a way to modify user behaviour in order to optimise the safety of automatic sliding glass doors in healthcare facilities.



The non-clear components on the glass door should serve its purpose to visually communicate:

- Identification of the location
- Warning of hazard to the user

The word 'DDR' could be lifted so that the central line of the sign shall be at a height of 1500mm above the floor level.

The floor vinyl covering was seamless and did not warn the user that there was a change in the path, i.e. 'door coming up'.

Door visibility is enhanced. The opening edge is non-clear

The information is at eye level

The floor vinyl is colored to indicate an approaching doorway.

