

## **Let's Stop Treating Our Youth Like Dummies**

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At a recent training event to evaluate various types of rescue devices and strategies to extricate victims from partial entrapment in free flowing grain, a group of volunteer high school students were invited to participate as test dummies. For each trial or test, two youth were equipped with a full-body harness and lifeline, asked to stand on the surface of a semi-truck load of dry corn, and were allowed to be drawn into the grain as the bottom discharge gate under each was opened. Both “victims” were drawn into the grain at either end of the same semi-trailer at the same time, each located over the deepest section of the trailer directly over the hoppers. Photos were taken of the entrapped youth with little more than their shoulders and head showing above the surface of the grain. The lifelines were then disconnected from the body harnesses and various rescue coffer dams were demonstrated to assess their efficacy to extricate the “victims” from the grain. The cranks used at each end of the trailer to open and close the bottom discharge gate were not locked out, or tagged out, and were left unsupervised. In some cases, based on the photographs taken, it appeared that the level of the grain surrounding the “victim” was higher than the airway of the entrapped youth. This exercise was repeated with several different

students participating as the “victims”. In each case observed there was no provision in place to prevent the intentional or unintentional opening of the bottom gate which, if occurred, would have resulted in the complete engulfment of the unsecured “victim” within seconds. Each youth was in a position that a simple human error could have resulted in suffocation with dozens of first responders present who would have been nearly helpless to extricate the victim in a timely manner.

It is our opinion, based on extensive studies of grain entrapments, including over 175 incidents involving grain transport vehicles, that these youth were placed in a position of unacceptable risk of not only suffocation, but also entrapment related injuries due to the pressures placed on their bodies by both the grain and the weight of no fewer than four adult first responders on the surface surrounding them. Even though this “teaching methodology”, involving the use of youth as “victims”, appears to be increasingly used to demonstrate the entrapment process, little attention has been given to the potential consequences if something goes wrong, and who will bear the liability.

Placing any human, no less a high school student, in such a position is incompatible with the provisions of any university responsible conduct of research policy or Institutional Review Board oversight. It appears to be also in violation of the required safe work practices found in two federal work place safety and health regulations (CFR 1910.146 and CFR 1910.272). Even though the youth in this situation were not employees at the time, and the farm may not have been under current OSHA jurisdiction, an OSHA compliance officer would have certainly found what was taking place a serious violation for any covered occupational setting. Organizers of the event were specifically asked if any of the youth were under 18 and the response was that care had been taken to ensure that the youth were over 18 to avoid the “need for parental consent”. Those in leadership roles at this event were clearly unaware of the potential risks associated with deep entrapment that have been documented in the published research literature. It was also stated that use of “live victims” provided the first responders with a “real world” environment in which to conduct the testing of rescue devices and train for actual entrapments.

It should be noted that while the use of youth as test subjects was occurring there were no fewer than three full size test mannequins available to the researchers. They were never used.

In our research, we have documented incidents involving trained first responders who volunteered to be partially buried for training purposes and experienced harmful physical and

emotional effects of entrapment. This has included elevated heart rates, breathing difficulty and post incident emotional discomfort.

The staff supervising and conducting this event were not experienced in the procedures of grain rescue and were not adequately briefed on the potential hazards involved. Placing a group of youth in a position of such high risk confirmed the lack of understanding, on the part of those involved, of the health and safety issues involved with deep grain entrapment.

Having conducted numerous training and safety demonstration events related to grain storage and handling, the use of youth as test subjects or for training purposes cannot be justified based upon actual need or any reasonable risk assessment model. We don't use youth as automotive crash dummies, drop them off the deep end of the pool to test the capabilities of life guards, or test the effectiveness of ROPS by putting youth inside the cab and rolling the tractor down a hillside. That is the purpose of mannequins or test dummies.

We encourage the re-evaluation of the practice of using youth as "victims" at public awareness events, first responder trainings, and in testing of rescue devices. We raise the possibility that such involvement by an uninformed or untrained population may, in fact, be an unintentional form of exploitation. Finally, we encourage those conducting these exercises to consider that making entrapment in grain a "fun" experience with only safe outcomes, may, in fact, communicate the wrong message about the very real hazards associated with grain entrapment. Let's stop being professional dummies and discontinue the use of youth as if they were expendable test dummies.