

Risk Manager

Answers, resources and information to help assess and reduce risk

Beware of Protruding Metal Bars! A Guide to Impalement Safety By Mark Nease

Impalement is an injury where a sharp-ended object pierces a person's flesh, resulting with serious internal injuries or death. Inspecting your grounds for safety hazards, including the identification of impalement hazards, is inherent to preventing impalement injuries.

Unguarded protruding metal bars are a source of impalement hazards, which can exist in all school districts. Some examples of how vertical metal bars installed at school districts may present an impalement hazard are:

Electrical grounding bars either protruding from the ground or having no physical protection, located near the electrical service entrance of a building.



Short lightning protection rods located along the perimeter of flat roofs.



Steel bars, also referred to as rebar, used as spikes to secure parking barriers, signs, landscaping items, etc., to the ground. Rebar also is commonly misused as a property line marker.



General Safety Tips

Avoid the use of vertical metal bars wherever possible; a key to eliminating impalement hazards at your district and protecting your students and staff.

Drive grounding rods completely into the ground so that they cannot be touched.

Pound or cut exposed metal bars so they are flush with the surface of the item they are securing.

Inspect locations where vertical metal bars may exist to ensure they do not protrude, as can occur during the freeze/thaw weather cycle.

Require staff to use fall protection when working at any height above exposed metal vertical bars.

Use rebar plastic caps that offer impalement protection.

Guarding Against Impalement – Rebar Plastic Caps

Rebar caps can appear as a one-size-fits-all remedy for protecting against impalement hazards; however, not all rebar caps provide the same level of protection.



Rebar caps that provide impalement protection, instead of those that only offer a visual warning or offer protection against a brush contact.

Install rebar caps that are of the correct size so that when fitted onto the metal bar, the rebar cap will provide the desired protection.

Inspect your rebar caps to ensure they are not missing or damaged.

In addition to a possible impalement injury as a result of a fall onto a protruding metal bar, staff also could be susceptible to acquiring Tetanus, a serious disease. Staff who may work at or near protruding metal bars should be up to date on their Tetanus vaccine.

Impalement protection should be a part of your safety plan. Identifying locations where exposed metal bars may exist and then taking measures to protect staff and students from impalement injuries are a viable solution to a safe school environment.

For additional information or training on best practices and safety management within your school entity, please contact Director of Risk Management Sharon Orr at (866) 401-6600, ext. 7152 or sorr@cmregent.com.