SAFETY MOMENT

July 2023 – Foot Protection.

In the drilling industry, there are numerous hazards that may lead to foot injuries. Many heavy items such as pump liners, driller collar lift subs as well as chemicals such as caustic and acids are present. Workers need to wear the proper foot protection to protect their feet from injury from such hazards as:

1. **Temperature Extremes.** Toes and feet often suffer frostbite in cold temperatures and "trench foot" in wet environments. In areas of extreme heat conditions, heat-resistant footwear may be required.
2. The most common hazard is heavy objects can drop onto or roll over on your feet. Without proper foot protection, toes can be severely stubbed and require medical attention.
3. Acids, corrosive, or toxic chemicals in direct contact with feet can cause immediate damage and possible systemic effects.
4. **Poisonous and infectious substances.** Without proper protection, feet can be a route of entry.
5. Feet can be punctured by nails or other sharp or protruding objects.
6. **Strains, sprains, and breaks**. Slip, trip, and fall hazards and slippery or uneven work surfaces result in many foot injuries where workers have inadequate protection.
7. Workers have been electrocuted by electricity entering the body through the feet. Accumulated static electricity can cause explosions, fires, and process problems.

Precautions: When addressing any hazard, the best option is to re-design or change the work environment to avoid exposure. When that is not possible, hazards can be controlled by wearing personal protective equipment like safety shoes. Where there is a danger of foot injury, employers can provide appropriate protective footwear after performing a thorough hazard assessment and providing employee training. Shoes should be comfortable as well as protective.

1. When slip, trip, and fall hazards cannot be eliminated, footwear with adequate grip can offer increased traction. Like tires, different shoe soles are available.
2. Slip- or oil-resistant soles are appropriate for wet or oily environments.
3. Special heat-resistant soles are available.
4. Chemical hazards require special attention. Footwear should be selected that is most resistant to the specific exposures. A wide range of materials are available, such as neoprene and nitrile that offer resistance to chemicals.

5. Neoprene and vinyl are useful against many petroleum products. For dual protection, chemical-resistant “over-booties” may be worn over steel-toe boots or chemically resistant steel-toe footwear may be worn.
6. Workers exposed to foot-crushing hazards require steel-toe footwear and may require metatarsal protection. Metatarsal protection is warranted when operations involve heavy materials that could be dropped onto the foot above the toecap.
7. Puncture-resistant footwear is available for workers exposed to objects such as nails, glass, or sharp metal.
8. Electrical hazard footwear is nonconductive and designed to reduce the potential for electric shock under certain conditions.
9. Conductive footwear helps to discharge static electricity from the body through the shoes and into grounded floors. Conductive footwear should not be worn near exposed electrical circuits. Electro-static dissipative footwear reduces static electricity by conducting the body charge to the ground but still offers some electrical resistance.