Fall Protection – Mechanics of a Fall

Handout

Explain the difference between the types of falls. This is important because some falls cause more severe injuries than others:

- Falls from the same level — involve falling at the same level and result in a person falling to the floor or to the ground; examples include slips and trips. Slips and trips have a high frequency rate but a low injury severity rate.
- Falls from an elevation — involve falling from one level to another. Examples include falling from a mezzanine to the ground below. These types of falls have a relatively low frequency rate but a high injury severity rate.

What happens during a fall?

Whenever a person loses their balance and their body unintentionally moves from an upright position to a prone or semi-prone position, a fall has occurred.

The free-fall velocity at impact when falling 12 feet is nearly 20 miles per hour. In other words, a person will hit the ground in less than a second after falling this distance. For example, a person 4 ft. above a lower surface will hit the lower surface in 0.5 seconds. A person 100 ft. above a lower surface will hit the surface in 2.5 seconds after a fall.