UV radiation from laboratory equipment is more concentrated than natural occurring UV!

**What is Ultraviolet Radiation??**

Ultraviolet light (UV) has two levels of radiation:

- **Non-ionizing**: ranges from 40-400 nanometers and is the most common form of UV radiation being used in biomedical and microbiological research laboratories.
- **Ionizing**: ranges from 100-280nm and more concentrated than natural occurring UV, which poses a greater threat to personnel. Can be emitted from some types of lab equipment.

**What is the Exposure Hazard of UV?**

Exposure to UV light can injure both the eye and skin.

- **Photokeratitis**: inflammation of the cornea (outer protective coating of the eye). Can with very brief exposure or just a flash of UV light.
- **Erythema**: sunburn of the skin. Can occur within a few seconds of exposure to UV. Prolonged exposure can cause premature aging and cancer of the skin.

**LIMITS of UV for sterilization:**

- Germicidal lamp has **limited penetrating power**.
- The dynamic air stream in a BSC decreases the efficacy of the UV.
- UV light does not penetrate soil, dust, or solid objects.
- Intensity of lamp diminishes over time, decreasing germicidal activity.
- Humidity levels above 70% decrease the germicidal effect of UV.
- Temperatures below 77°F reduce the output of the germicidal wavelength.

EHRS does not recommend use of UV for decontamination.

**Safety Practices and Precautions**

**Minimize eye and skin exposure:**

- Always wear personal protective equipment (PPE) such as gloves, face shields, and lab coats.
- Never occupy BSC while UV lamp is activated.
- Do not work in a room where a UV light is active.
- Use Transilluminators ONLY with protective shield in place.
- Do not use Crosslinkers if the door safety interlocking mechanism is not working.

Additional information and references can be found in the biosafety manual and on the EHRS website.