

Long or Successive Takes and the Risk of MSI

ACTSAFE SAFETY BULLETIN #45

Advancements in technology have enabled filmmakers to increase the length of individual takes and also to do quick resets, resulting in successive takes that don't allow workers time to recover. This bulletin describes safety considerations for crew members and performers who face physical challenges resulting from long or successive takes.

HAZARDS

Long, unbroken periods working with heavy or awkward tools and equipment can increase the risk of musculoskeletal injury (MSI). This includes working with handheld sound booms, cameras, lights, and other equipment where the worker is in a static or awkward position for a long time.

Long and successive takes can also be challenging for performers who are acting in more physical roles or doing stunts — for example, working with heavy or awkward props, firearms, or prosthetics.

MUSCULOSKELETAL INJURY (MSI)

This document focuses on injury or disorders of the muscles, tendons, ligaments, joints or related soft tissues, including a sprain, strain and/or inflammation that may be caused or aggravated by work.

MSIs may include the following:

- Repetitive strain and overuse injuries
- Microtrauma injuries, such as microtearing of tissues and ligaments

Over time, MSIs can lead to additional health and safety concerns, such as dropping equipment or slipping, tripping, or falling.

Signs and symptoms

Signs of an MSI can be observed — for example, swelling, redness, or difficulty moving a body part.

Symptoms of an MSI can be felt but not observed —for example, numbness, tingling, or pain.

CONTROL MEASURES

Employers should consider ways to help maintain an ergonomically safe and healthy work environment. The following control measures may help prevent muscle fatigue and injury when there are long or successive takes.

Engineering controls

Engineering controls are physical changes to the workplace, such as equipment that can make a job easier or safer to do. Here are some examples for long or successive takes:

- Lighter tools and equipment

- Remote-operated cameras
- Wireless microphones
- Dolly-mounted microphone booms
- Camera dollies
- Tripods or monopods
- Bungee rigs
- Rigs or handheld support
- Powered assist devices
- Intelligent exoskeleton systems
- Ergonomically designed cameras and lenses



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Administrative controls

Administrative controls are changes to the way people work, such as task rotation or regularly scheduled breaks. Administrative controls may include training, supervision, or safe work procedures.

Here are some examples to help prevent MSI:

- Schedule regular breaks so workers have time to rest and recover.
- Rotate workers through different tasks to share the workload.
- Decrease the length of individual takes.
- Have a warmup and stretching routine.
- Assign co-workers as spotters to help equipment operators.

Worker guidelines

As a worker, you should make use of scheduled breaks whenever they're offered. Use stretching exercises throughout the day to help prevent fatigue and injury.

If you're experiencing muscle fatigue or discomfort, talk to your supervisor, production management, or safety personnel as soon as possible.

Stunt coordinators and dance choreographers should monitor how performers are doing if stunts or dance sequences are being repeated over long periods. Take into account environmental factors such as rough terrain or extreme temperatures.

Background performers who are doing strenuous or repetitive tasks should be monitored.

REGULATORY REFERENCES

- [Sections 4.46 to 4.53, Ergonomics \(MSI\) Requirements](#)
- [G4.46 to G4.53, Ergonomics \(MSI\) Requirements](#)

RELATED RESOURCES

- [Safety Scene Quarterly Newsletter, Fall 2020](#) (Focus: Ergonomics)

Actsafes Safety Association

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