

How Do You Know the Control Worked?

By Ashish Syal, Founder, Edgentik

A corrective action has been implemented. A barrier was installed, a procedure was changed, a traffic route was redesigned, or workers received additional training.

Several months pass without an injury.

Did the control work?

The absence of an injury, by itself, tells us very little. Injuries are important outcomes, but they are relatively infrequent and influenced by chance. A workplace can go through a quiet period while the hazardous condition remains unchanged. An organization can also improve a condition substantially and still experience an isolated event.

To evaluate a control properly, safety teams need to measure the condition the control was intended to change.

Start with the condition, not the injury

Consider a warehouse where pedestrians regularly pass through an area used by forklifts. The site introduces a marked pedestrian route and changes the staging layout.

The intended result is not simply "fewer injuries." The control is meant to reduce a more immediate and observable condition, such as pedestrians entering the forklift operating area, forklifts and pedestrians occupying the same constrained space, or workers bypassing the designated route.

These conditions can occur far more often than injuries, so they provide earlier evidence about whether the workplace changed as intended.

The same logic applies to an ergonomics control intended to reduce awkward reaches, a guarding change intended to prevent access to a hazardous point, or a housekeeping control intended to keep travel paths clear.

The first question is therefore:

What observable condition is this control supposed to change?

If that cannot be answered clearly, it will be difficult to determine whether the control worked.

Define the measure before implementing the control

A useful measure is specific enough that two reviewers looking at the same situation would reach approximately the same conclusion.

"Unsafe interaction" is too broad. A more useful definition might be:

A pedestrian enters the marked forklift operating zone while powered mobile equipment is operating within that zone.

The definition should establish what counts as an occurrence, where and when the observation applies, what is excluded, and what the result is compared against.

That last element matters. Ten occurrences during a low-volume shift represent a different level of exposure than ten during the busiest production period of the week.

Depending on the condition, the result might be expressed per operating hour, per shift, per vehicle movement, or per defined observation period.

The goal is not a complicated statistical model. It is a before-and-after comparison that means something.

Establish a baseline

A baseline records the condition before the control is introduced.

A site might observe a crossing for two weeks and record pedestrian entries into the vehicle zone, operating hours, vehicle activity, and the periods in which occurrences were concentrated. After the control is implemented, the site repeats the observation using the same definition and method.

The comparison can then address the real question:

Did the condition become less frequent, less concentrated, or less severe?

This is often where the process becomes difficult, for practical rather than philosophical reasons. Few sites have someone available to observe a crossing continuously for two weeks and then repeat the exercise after a change.

Several workable approaches exist:

- Structured spot observation over a defined and repeatable window
- Consistent use of existing operational records
- Systematic review of footage the site already captures

Depending on the volume involved, footage may be reviewed manually or with appropriate technology.

Each method has limits. What matters is that the observation period, definition, and method can be repeated later. Memory and general impressions cannot provide that consistency.

Where no baseline was collected before implementation, an organization can still use reliable historical records or establish the current condition before making the next change.

Monitoring effectiveness is already part of the regulatory framework

The obligation to evaluate controls appears in several parts of British Columbia's Occupational Health and Safety Regulation.

For ergonomics, section 4.52 requires employers to monitor the effectiveness of measures taken under the Musculoskeletal Injury requirements, ensure they are reviewed at least annually, and correct identified deficiencies without undue delay.

In the hazardous-substance context, section 5.54(3) requires an exposure control plan to be reviewed at least annually, updated as necessary, and reviewed in consultation with the joint committee or worker health and safety representative. Section 5.53(1)(b) also requires reassessment when a change in work conditions may increase exposure, including a change in production rate, process, or equipment.

These sections apply in different regulatory contexts, but they reflect a common principle:

Four things that can break the comparison

1. Definition drift

The baseline may have counted every entry into a vehicle zone, while the follow-up counts only entries considered serious.

The apparent improvement comes from a narrower definition rather than a safer workplace. Use the same definition before and after.

2. Changes in production volume

Fewer occurrences may simply reflect fewer operating hours, vehicle movements, workers, or production cycles.

Consider raw counts alongside an appropriate operational denominator.

3. Changes in measurement method

A baseline built from direct observation should not be compared casually with a follow-up built from incident reports or worker recall.

Different methods detect different things.

4. Heightened awareness after a change

People often modify their behaviour immediately after a new control, training session, or management communication. That initial improvement can fade as attention shifts.

An early follow-up is useful, but it should not be the only one.

A result showing no improvement is still useful

Safety teams may be reluctant to measure a control because the result could show that it did not work.

That is not a failed exercise. It is useful information.

A control may have been poorly selected, inconsistently applied, or overwhelmed by operational conditions. It may need additional engineering support, a process change, clearer separation, better maintenance, or replacement with a stronger control.

The purpose of measurement is not to prove the original decision was correct. It is to help the organization decide what to do next.

A simple control-effectiveness record can document:

- The control introduced
- The condition it was intended to change
- The baseline period and result
- The follow-up period and result
- Relevant operational changes
- Feedback from workers and the joint committee
- The resulting decision

The essential question remains straightforward:

Did the condition we intended to change actually change?

A quiet quarter may feel reassuring. A defined baseline and a comparable follow-up provide something more valuable: evidence that a control changed the condition it was designed to address.

About the author

Ashish Syal is Founder of Edgentik, which helps industrial sites use existing cameras to measure recurring safety conditions, compare exposure before and after corrective actions, and determine whether workplace controls are working.