



# Haddon Matrix

# An Overview

The Haddon matrix, developed by William Haddon, has been used for more than two decades in injury prevention research and intervention. The Haddon matrix is a grid with three or four columns (depending on whether environment factors are split into social and physical factors) and three rows. The rows represent different phases of an injury (Pre-Event, Event, and Post-Event), and the columns represent different influencing factors (Host, Agent, Environment).

## Parameters

		<b>HOST FACTORS</b> The host is the person at risk of injury.	<b>AGENT FACTORS</b> The physical agent refers to that which causes injury	<b>ENVIRONMENT FACTORS</b> This refers to the social norms and physical aspects of the locale of the incident.
TEMPORAL PHASES	<b>PRE-EVENT</b> occurs before injury; focus on preventing the injury	Information that the person at a risk of injury should possess to avoid injury  Recommendation of actions that should be	Information about maintaining the ideal condition of the agent of injury (machinery etc.), so that injury can be prevented  Recommendation of actions that should be performed to prevent the	Dissemination of information about proper guidelines to follow for each activity  Recommendation of actions that should be performed to prevent the
	<b>EVENT</b> during event/ at injury site; focuses on minimizing severity	Information about the aspects that were neglected by the host and caused the injury  Recommendation of actions that should be performed during the incident to minimize injury	Information about the maintenance related best practices that were violated or overlooked by the host or any other person  Recommendation of actions that should be performed during the	Information about the condition of the surroundings and the awareness level of the injured person  Recommendation of actions that should be performed during the incident to minimize injury or damage
	<b>POST-EVENT</b> occurs after injury; focuses on options to reduce the severity of the consequences	Information about the medical services that were provided to the host and suggestions for improvement	Information about cautionary measures to be taken to avoid such injuries in future	Information about improving awareness levels about safety at work





# Advantages

The Haddon Matrix is a practical, efficient decision-making and planning tool to help teams:

- Understand current and emerging threats.
- Perform vulnerability assessments.
- Prioritize and allocate readiness and response resources.
- Maintain institutional agility in responding to an array of emergencies.

It helps to break a larger problem down to smaller, manageable components.

It serves as a helpful after-action evaluation tool to assess an emergency team's performance in achieving the goals of a preparedness exercise, or in responding effectively to a real-life event.

It promotes efficient use of emergency team resources, because the matrix:

- Can reveal strategies that allow multiple issues to be addressed by one solution.
- Focuses on appropriate phase responses.

# Example

## Incident Summary:

Tyrone Peters injured three fingers while operating a circular saw. It was an early Tuesday morning, when a fellow power-saw operator requested Tyrone to fill in for him. It was a last-minute request, but Tyrone didn't mind and headed to work. In a rush to reach his workstation in time, Tyrone neglected donning his complete safety gear; additionally, he dozed off while operating the saw. Both factors led to Tyrone's injury. While he was rushed to the hospital in time and his condition was stabilized, three of his fingers had to be amputated.

Below is the Haddon Matrix for this incident.

		HOST FACTORS	AGENT FACTORS	ENVIRONMENT FACTORS
TEMPORAL PHASES	PRE-EVENT	Ensure mandatory certification of all power saw operators  Conduct stringent checks on education and emotional state to be done before employing a person to operate a power tool	Check equipment condition mandatorily <b>before</b> beginning work on it  Conduct a stringent check to verify that all power saw employees wear safety gear	Ensure that there is proper lighting in the area where the power saw is used  Ascertain that the workload does not require overtime on a daily basis
	EVENT	Perform regular checks to ensure that all power saw operators wear proper protective gear	Ensure that all equipment safety measures are in place	Ensure that the power saw operating area is well lit
	POST-EVENT	Run awareness campaigns about the importance of certification programs  Run campaigns to announce that employees flouting PPE rules will be penalized	Highlight the need to have <i>Emergency Shutoff</i> of machines enabled  Involve the power saw manufacturers in discussions on the need for innovative solutions to protect employees from power saw injuries	Revisit the lighting standards at the location  Check the workload limits for all employees Display safety- related posters at high-traffic areas