

# SHOVELING AND HEART ATTACKS

Cause Map

## Shoveling snow really can trigger heart attacks

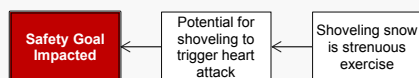
You may have heard that shoveling snow can trigger a heart attack and studies have found that there is truth behind that concern. Before you pick up a shovel this winter, there are a few things you should know. Shoveling can be much more strenuous than many people realize - even more strenuous than running at full speed on a treadmill - and the cold temperatures can also increase blood pressure, a combination that can be dangerous.

### 1 Problem

<b>What</b>	Problem(s)	Shoveling snow can trigger heart attacks
<b>When</b>	Date	Ongoing
	Different, unusual, unique	Snow
<b>Where</b>	Facility, site	Homes and businesses
	Task being performed	Shoveling snow
<b>Impact to the Goals</b>		
	<b>Safety</b>	Potential for shoveling to trigger heart attack
	<b>Schedule/ Operations</b>	Can be difficult to reach patient quickly

### 2 Analysis

**Basic Level Cause Map** - Start with simple Why questions.



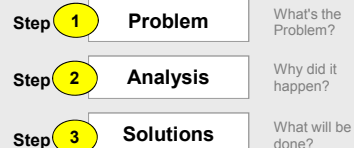
**Basic Cause-and-Effect**

Many people who aren't used to strenuous exercise shovel snow each winter and studies have found that the sudden increase in physical activity (combined with cold temperatures) can trigger heart attacks.

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

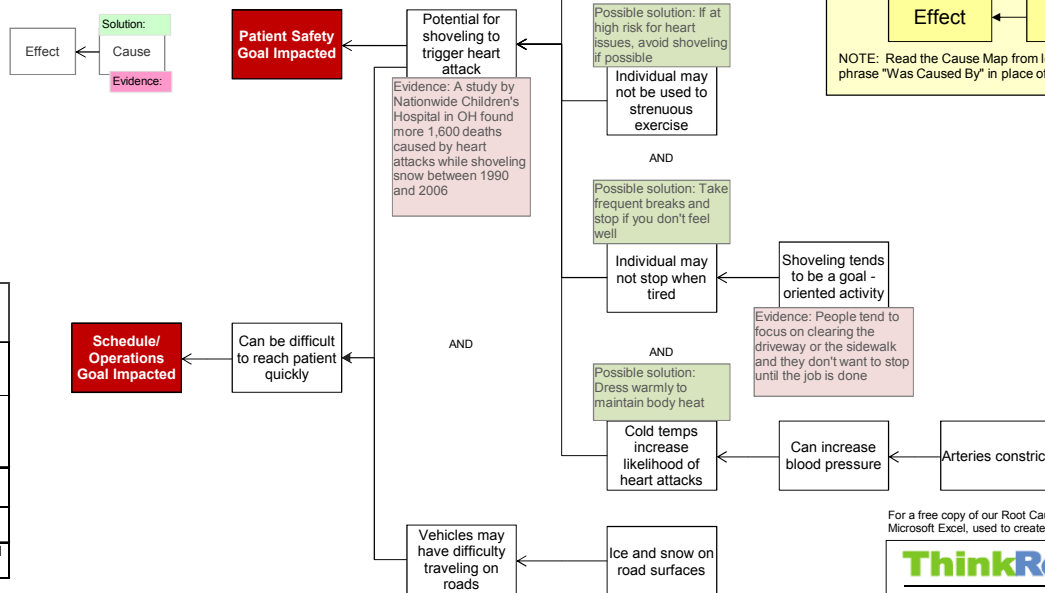
#### CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis



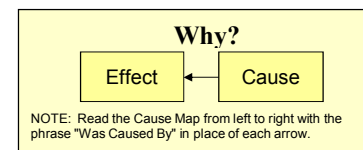
**More Detailed Cause Map** -

Add detail as information becomes available.



"If you haven't been exercising and you haven't been exerting yourself, this is not the time to start. The amount of work that goes into shoveling snow is tremendous."

-Lawrence Phillips, a cardiologist at NYU Langone Medical Center



### 3 Solutions

No.	Action Item	Cause
1	Try to shovel several times throughout the storm to spread out the work over time	Shoveling snow is strenuous exercise
2	Shovel many light loads instead of fewer heavy ones. Or try to push snow rather than shovel it	Shoveling snow is strenuous exercise
3	If at high risk for heart issues, avoid shoveling if possible	Individual may not be used to strenuous exercise
4	Take frequent breaks and stop if you don't feel well	Individual may not stop when tired
5	Dress warmly to maintain body heat	Cold temps increase likelihood of heart attacks

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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