Wrong Body Part Irradiated
October 2005

In October of 2005 a therapist was preparing a patient for radiation therapy. The therapist used a tattoo on the patient's body to guide the radiation therapy. Additionally the therapist brought up a photo of the area to be irradiated. Unfortunately in this instance the tattoo and the photographs both indicated the patient's esophagus - which was the site of previously delivered radiation therapy - instead of his upper spine, where the new radiation treatments were to be delivered.

Although there was no damage to the patient's health, this incident impacted the facility's patient safety goal, because of the potential for injury to a patient when radiation is delivered unnecessarily. Additionally, it impacted the patient service goal because the radiation treatment was misdirected to the wrong body part. The organization and compliance goals were impacted because of this reportable error. Lastly, there are impact to the materials and labor goals due to the additional treatments that were required to deliver radiation to the upper spine.

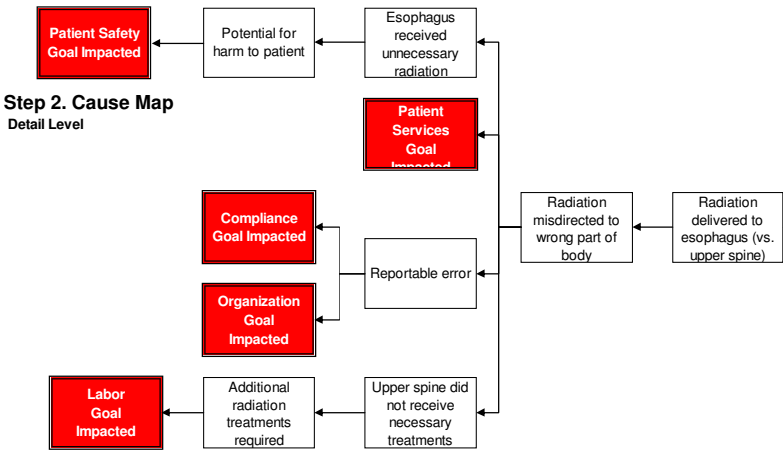
Step 1. Problem Outline
Define the problem

What	Problem(s)	Wrong part of patient's body irradiated
When	Date	October, 2005
	Different, unusual, unique	Patient had previously received radiation to esophagus
Where	Facility, site	?
	Unit, area, equipment	?
	Task being performed	Radiation therapy to upper spine

Impact to the Goals

Patient Safety	Potential for harm to patient
Employee Impact	?
Compliance	Reportable error
Organization	
Patient Services	Radiation misdirected to wrong part of body
Environmental	?
Property, Equip, Mtls	Additional radiation treatments required
Labor, Time	
	This incident ?
Frequency	?
	Annualized Cost ?

Step 2. Cause Map
Detail Level



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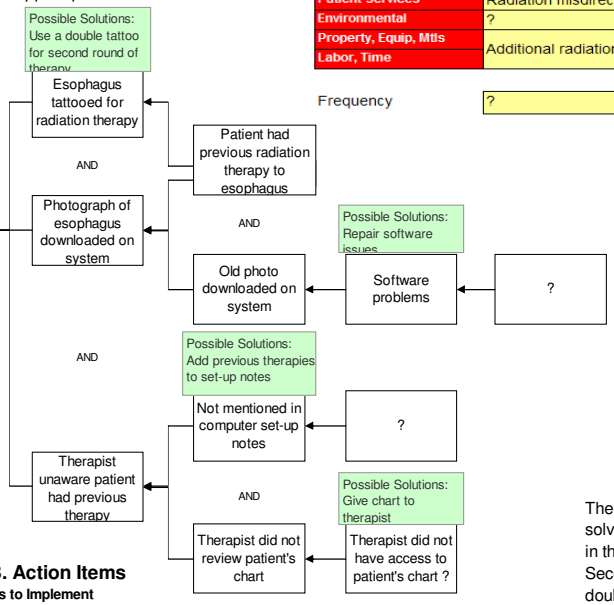

The situation was complicated by the software error that brought up an old picture, indicating that the therapy should treat the esophagus. To add to the confusion, there was a tattoo on the esophagus designating it as the site of the therapy. There was nothing in the set-up notes to indicate that the patient had had a previous round of radiation therapy. It is unclear whether the therapist had access to the patient's chart, which would have designated the area to be irradiated and would mention the previous therapy.

Step 3 to avoid radiation therapy errors: verify the WHERE - which body part requires the radiation therapy.

The facility involved introduced measures to solve the software problems which resulted in the old photograph being downloaded. Second therapy sites are now marked with double tattoos. Information such as the therapy location and any previous radiation therapy sites are now included in the set-up notes. Additionally, ensuring that the therapist has access to a patient's medical chart will help allow the therapist to ensure a patient's therapy is delivered properly.

Step 3. Action Items
Solutions to Implement

No.	Action Item	Cause
1	Use a double tattoo for second round of therapy	Esophagus tattooed for radiation therapy
2	Repair software issues	Software problems
3	Add previous therapies to set-up notes	Not mentioned in computer set-up notes
4	Give chart to therapist	Therapist did not have access to patient's chart ?

Why?

Effect ← Cause

NOTE: Read the Cause Map from left to right with the phrase "Was Caused By" in place of each arrow.