Blood incompatibility is a Sentinel Event as defined by The Joint Commission. If a blood incompatibility incident occurs at a medical facility, a root cause analysis is required for the event. What would the root cause analysis look like? We will look at a proactive Cause Map (visual root cause analysis) and associated Process Map as an example.

**Blood Incompatibility**

A recipient being given incompatible blood product is an impact to the patient safety goals (as well as other goals, but we’ll start simple). This could occur if the ABO blood type is identified incorrectly, probably due to mislabeling. It could also occur if the recipient's blood type is identified incorrectly, possibly due to the recipient test specimen being mislabeled. Or it could occur if blood product is given to the wrong patient due to misidentification of the recipient. There are many other ways it could occur, but these three errors are the source of many blood incompatibility incidents.

**As we enter these causes into our Cause Map, we note that these are all procedural errors. When procedural errors appear in the root cause analysis, making a Process Map can assist in the investigation. To make a Process Map, we start with the very basic process. For example, to perform a blood transfusion, we order a transfusion, take a sample from the recipient, test that sample while prepping the patient for a transfusion, pick up blood product (which was deposited there at some point previously), perform the blood transfusion, and then monitor the recipient for reactions.**

Then we go into more step by step detail outlining portions of the transfusion process. Then we can identify the specific steps of the procedure that can lead to blood incompatibility incidents when performed incorrectly or most likely to lead to serious errors.

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**Cause Map**

<table>
<thead>
<tr>
<th>Why?</th>
<th>Effect</th>
<th>Cause</th>
</tr>
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</table>

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

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