

## Root Cause Analysis

Shorter introduction or  
presentation for a staff meeting  
(30-45 minutes)

# Root cause analysis

When and how?

A systematic method used to establish

- **What** happened?
- **Why** did it happen?
- **How** can it be prevented from happening again?
- ..... but **never** 'Who is to blame?'

When an adverse event has had serious consequences for the patient

- Actual or potential
- Death or major loss of function or risk of same

= score 3

1. Begin investigation of the adverse event
2. Determine the sequence of events
3. Identify contributory factors
4. Identify tentative root causes
5. Gather additional data and perform literature review
6. Discuss, determine and confirm identified root causes
7. Prepare action plan
8. Generate report and obtain approval

- The event is scored
  - based on professional opinion
- Management decides – possibly in consultation with hospital leadership – to begin the root cause analysis

- The matrix score is based on the severity of injury to the patient and the probability of recurrence
  - The SAC provides fixed criteria for assessing the extent and frequency of the event
- The SAC treats potential risk of injury and actual injury equally

	Catastrophic	Major	Moderate	Minor
Frequent	3	3	2	1
Occasional	3	2	1	1
Uncommon	3	2	1	1
Remote	3	2	1	1

Actual injury/potential risk of injury

## Example:

- A newborn baby, delivered by caesarean section, is immediately administered an intramuscular injection of Methergine
- The baby should have received a Vitamin K injection
- The mistake is discovered immediately after the medication is administered
- The baby is transferred to the neonatal unit for observation

- Assign a score to this adverse event:
  - Actual
  - Potential

# SAC Matrix

Tryg Patient

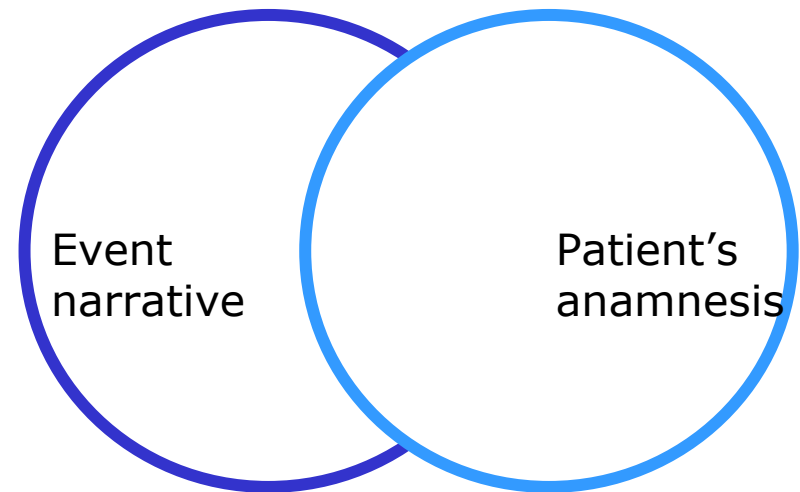
	Potential Catastrophic	Actual Major	Moderate	Minor
Frequent	3	3	2	1
Occasional	3	2	1	1
Uncommon	3	2	1	1
Remote	3	2	1	1

Actual injury/potential risk of injury

Stage 1

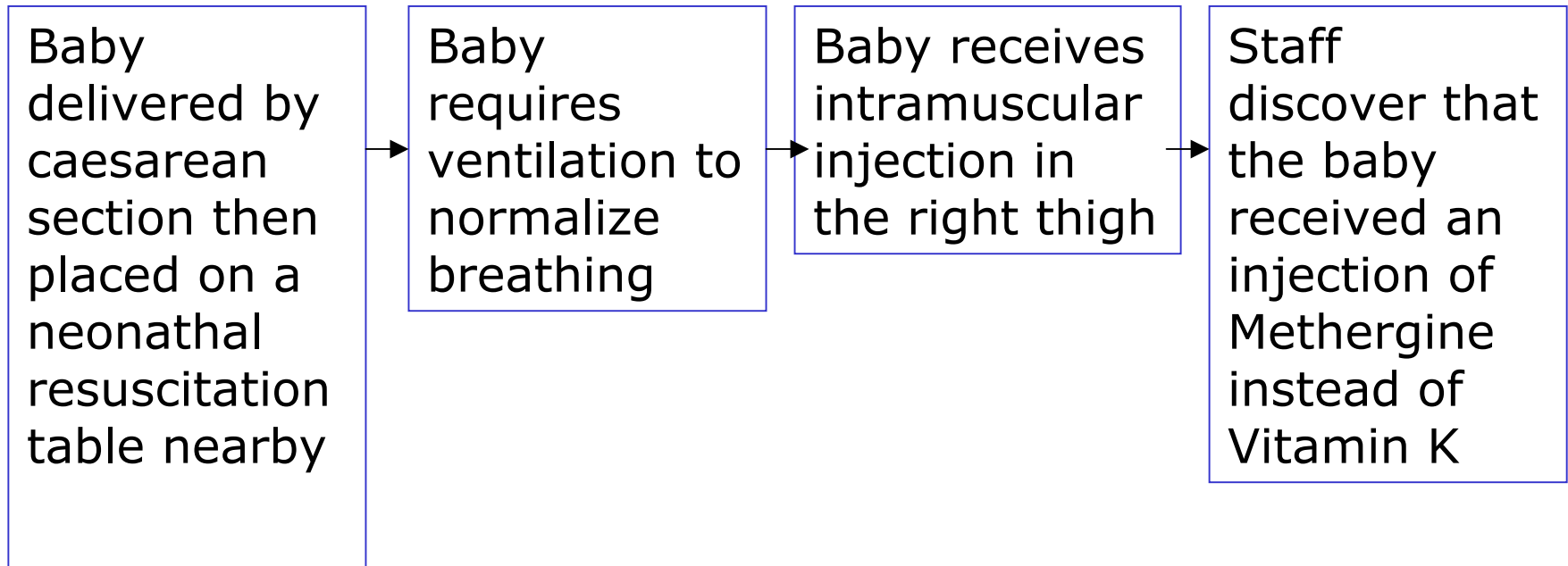
- A precise chronological ordering of the chain of events that preceded the occurrence of an adverse event
  - Narrative description and/or using flow chart

- The event sequence is based on the narrative of the event, but may include elements of the patient's anamnesis



# Event sequence flow chart

Tryg Patient



Stage 2

- Communication (C)
- Training (T)
- Scheduling (S)
- Environment and equipment (E)
- Rules/policies/procedures (R)
- Barriers (B)

- The team reviews the supplementary questions in the Handbook (pages 21-40) relating to the areas in which contributory factors are defined
  - The team asks: "why" and answers: "because..." until it no longer makes sense

Depending on the nature of the RCA:

- Interviews
- Photographs
- Legislation/Procedures/guidelines etc.
- Literature review – at minimum
  - Sentinel Event Alerts (JCAHO)
  - “Making Health Care Safer” (AHRQ)

- The team meets again and identifies root causes based on PSO's presentation
  - There are always several root causes of an adverse event

Verify the identified root causes by:

- observing the five rules of causation – and
- asking “If we eliminated this/these cause(s), could we have prevented this event?”
  - Handbook, pages 41-43

1. Causal statements must clearly show the 'cause and effect' relationship
2. Negative descriptors should not be used in root cause analyses
3. For every human error in the causal chain, there must be a corresponding condition cause that combined to contribute to the undesired effect
4. Each procedural deviation must have a preceding cause. Identify the cause of a procedural violation, not the violation
5. Failure to act is only causal when there was a pre-existing duty to act. The duty to perform might arise from standards and guidelines for practice or other duties to provide patient care

- The team prepares a recommendation for a specific initiative for each root cause
  - **how** do we ensure it doesn't happen again?
  - **who** does **what** and when?
  - **How** will the action plan be monitored?

# Stage 8: The RCA report

- The root cause analysis is not part of the patient medical records; therefore:
  - Do not include personal registration numbers (CPR numbers) or other information that could identify the patient
- No names or other information that could identify the healthcare professionals involved in the event
- The root cause analysis is an internal working document
  - It is the property of hospital administration and the unit(s) involved

- Local instruction
  - Within the unit(s) involved in the event
- General instruction
  - At the hospital through the quality council
    - eg through newsletters
  - On a national basis
    - through [www.dpsd.dk](http://www.dpsd.dk)