Root Cause Analysis

Afternoon Session

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Analysing Information

What are the Issues/Problems

What are the Care Delivery and Service Delivery Problems? (CDPs and SDPs)

- Some will jump out immediately
- Others emerge, particularly if a multi professional team is involved in problem identification
- Convene multidisciplinary review meeting

Problems that arise in the process of care…usually actions or omissions by staff

i. care deviated beyond safe limits of practice
ii the deviation had a direct or indirect effect on the eventual adverse outcome for the patient

- **Failure to monitor, observe or act**
- **Incorrect decision or action**
- **Not seeking help when necessary**

Care Delivery Problems

- Are associated with a person or team e.g. *the patient's GP, the pharmacist, midwife X, the crash team etc*
- Are specific actions or omissions e.g. '*the nurse failed to communicate*' …., rather than '*communication failure*'
- Both CDPs and SDPs are about something that happened or should have happened - so expect them to use a verb

Acts or omissions identified during analysis as causative… but not associated with direct care provision.

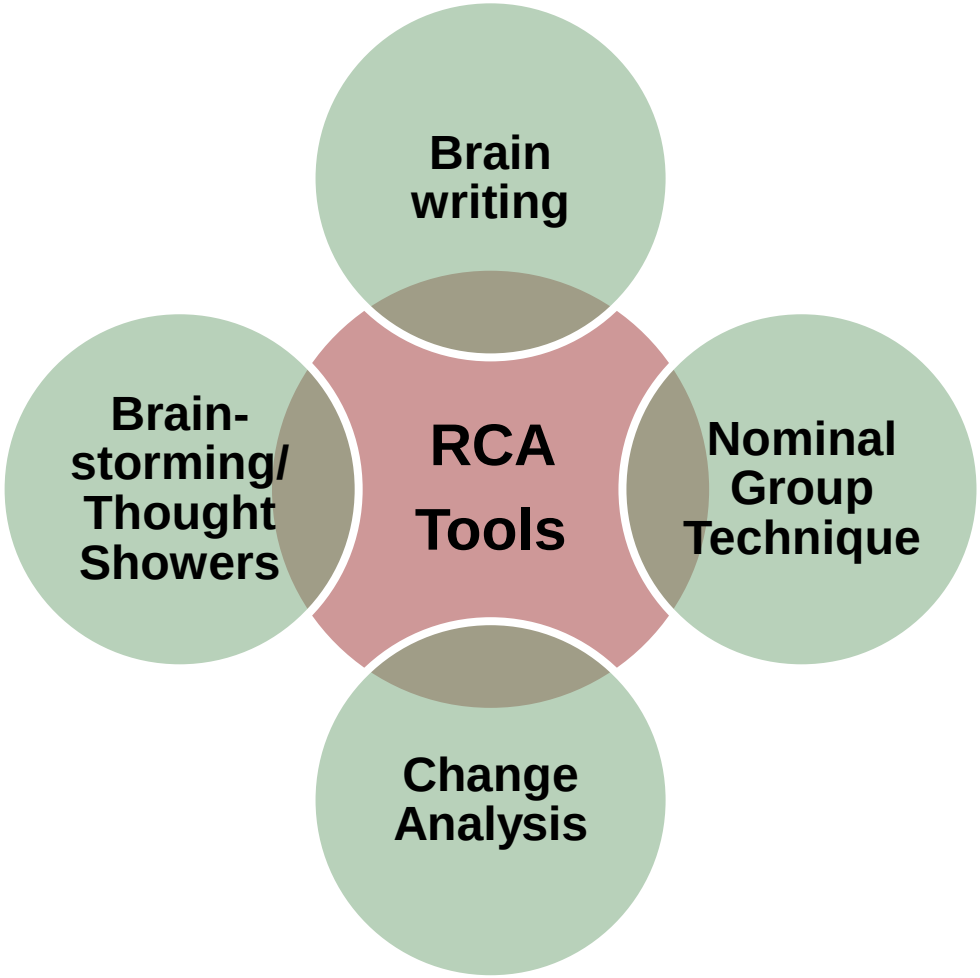
…Generally associated with decisions, procedures and systems that are part of the process of service delivery.

- **Failure to undertake environmental risk assessment**
- **Failure to implement safe systems**
  (eg: Failure to display an emergency number on new telephones)

Service Delivery Problems

- Are associated with problems that are nameless e.g. *the Trust, the management, 'the powers that be'*
- Are specific actions or omissions e.g. *'the Trust board failed to implement the new policy effectively', 'the management team didn't inform the staff of the changes'*
- Both CDPs and SDPs establish **WHAT** went wrong, before you can go on and determine **WHY** it went wrong.

Mapping the information



Nominal Group Technique (NGT)

- What is NGT?
  - It is a form of brainstorming in which all participants have the same vote when selecting problems or solutions

- When to Use NGT?
  - To generate ideas from the whole group
  - To gain consensus about which ideas to pursue in the analysis

Change Analysis

- Change Analysis Identifies:
- All changes (either perceived or observed)
- All factors related to the change(s)

Change Analysis - 6 Steps

1. Identify the problem/cause
2. Describe an event-free or no-problem situation.
3. Compare the two.
4. List the differences
5. Analyse the differences
6. Record change(s)

Group Work: Problem Identification

Identify the problems (CDPs / SDPs) within the case study using NGT.

Analysing Information & Exploring Problems

Multidisciplinary Review Meeting Scope…

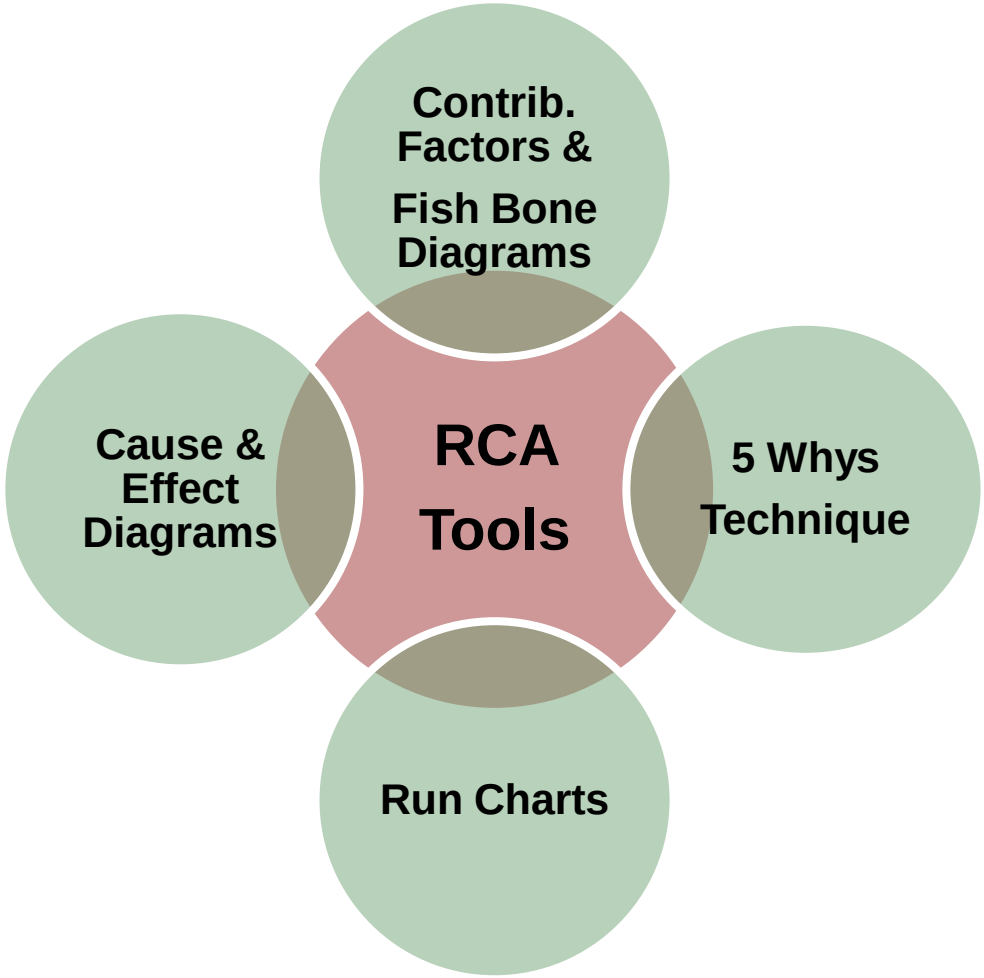
- Confirm that no critical issues have been omitted
- Agree and prioritise the problems (CDP/SDP)
- Identify and analyse the contributory factors associated with each of the CDP/SDPs identified
- Identify the root causes
- Generate failsafe improvement strategies

Analysing Information & Exploring the Problems

Contributory Factors?

- Contributory, influencing or causal factors are things that contributed to the incident.
- Contributory factors can vary in their significance of impact on the CDP/SDP.
- Contributory factors can have both a negative and positive impact.

RCA tools to aid problem exploration



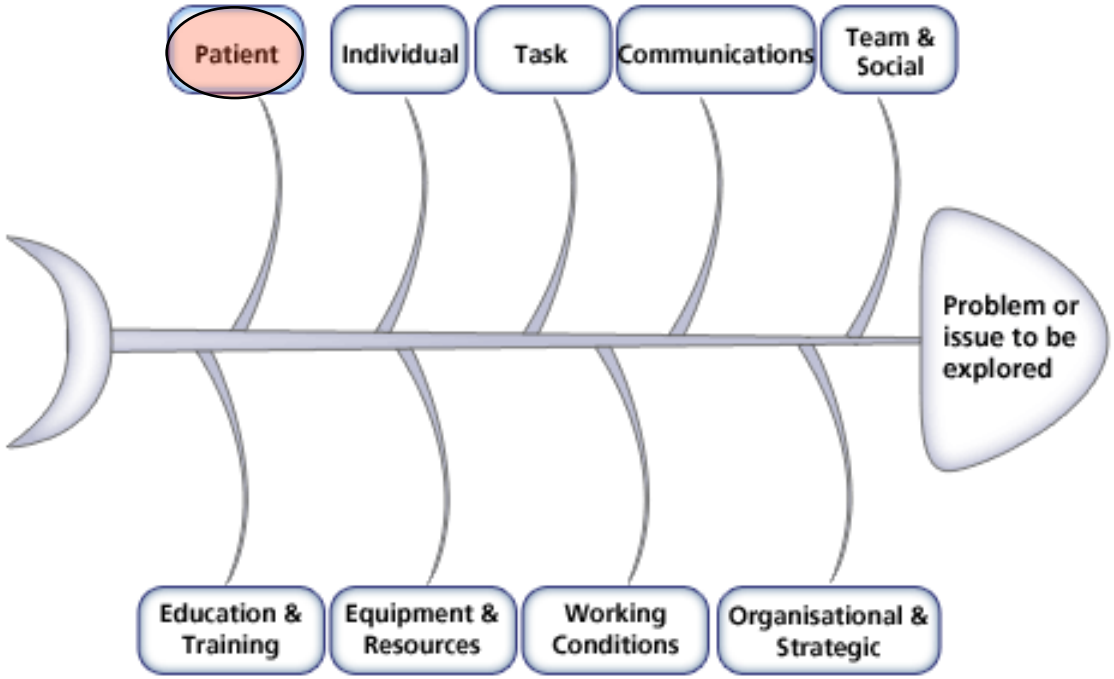
Contributory Factors

- Patient factors
- Individual factors
- Task factors
- Communication factors
- Team & Social factors
- Education & Training factors
- Equipment and Resource factors
- Working Condition factors
- Organisational & management factors

NHS
National Patient Safety Agency

Contributory factors - NPSA framework

The key part of the analysis is to identify the contributory factors lying behind each problem. The NPSA's CFF has categories and components relating to exploring incidents. Click each category to find out more.



Patient factors

Patient factors are grouped into five types:

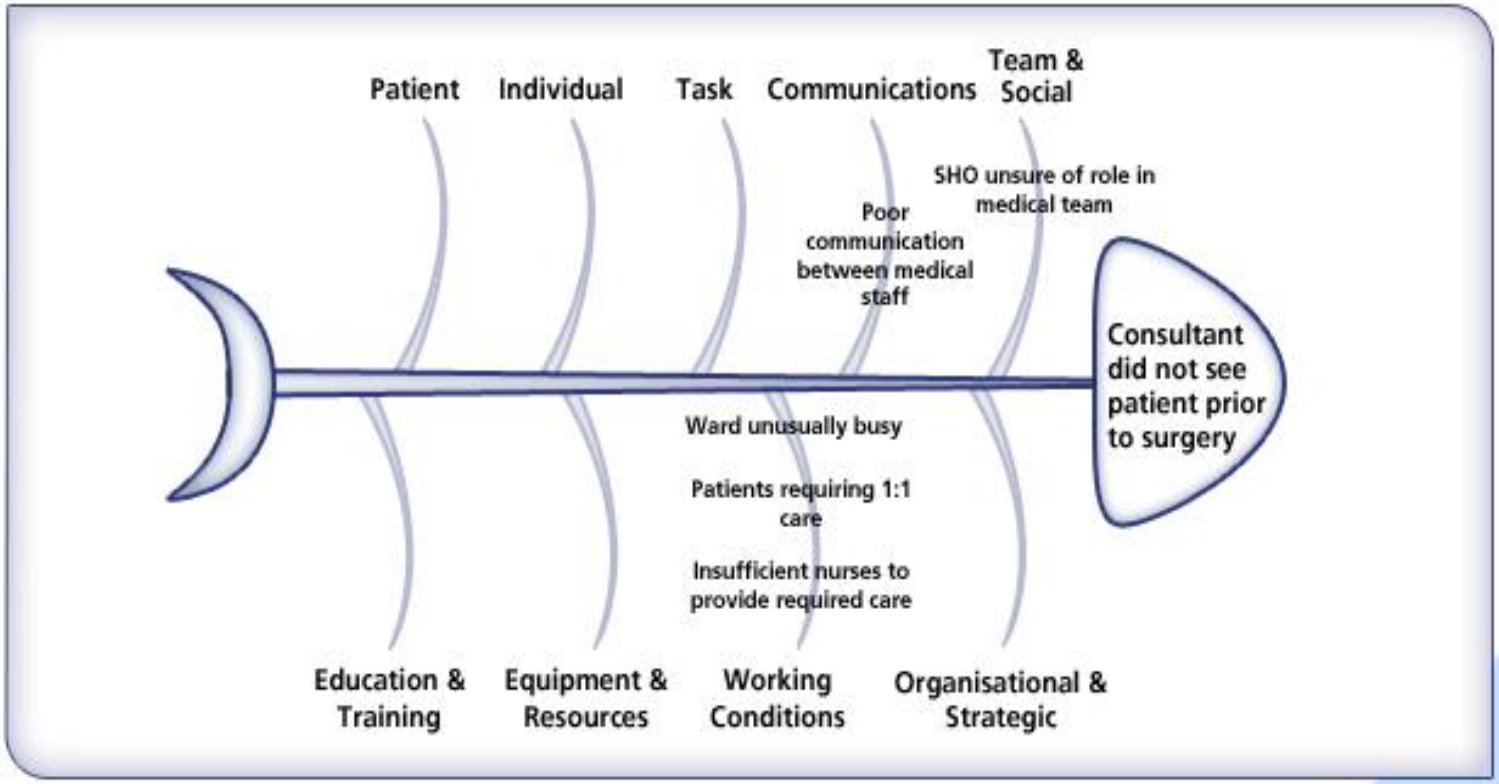
- Clinical condition
- **Social factors**
- Physical factors
- Mental and psychological factors
- Interpersonal relationships

Example: The patient did not understand the risks of treatment due to his poor understanding of the English language and no interpreters were available.

Click **Next** to continue

Wrong site surgery

The team now begin taking these factors and plotting them on to a fishbone diagram.

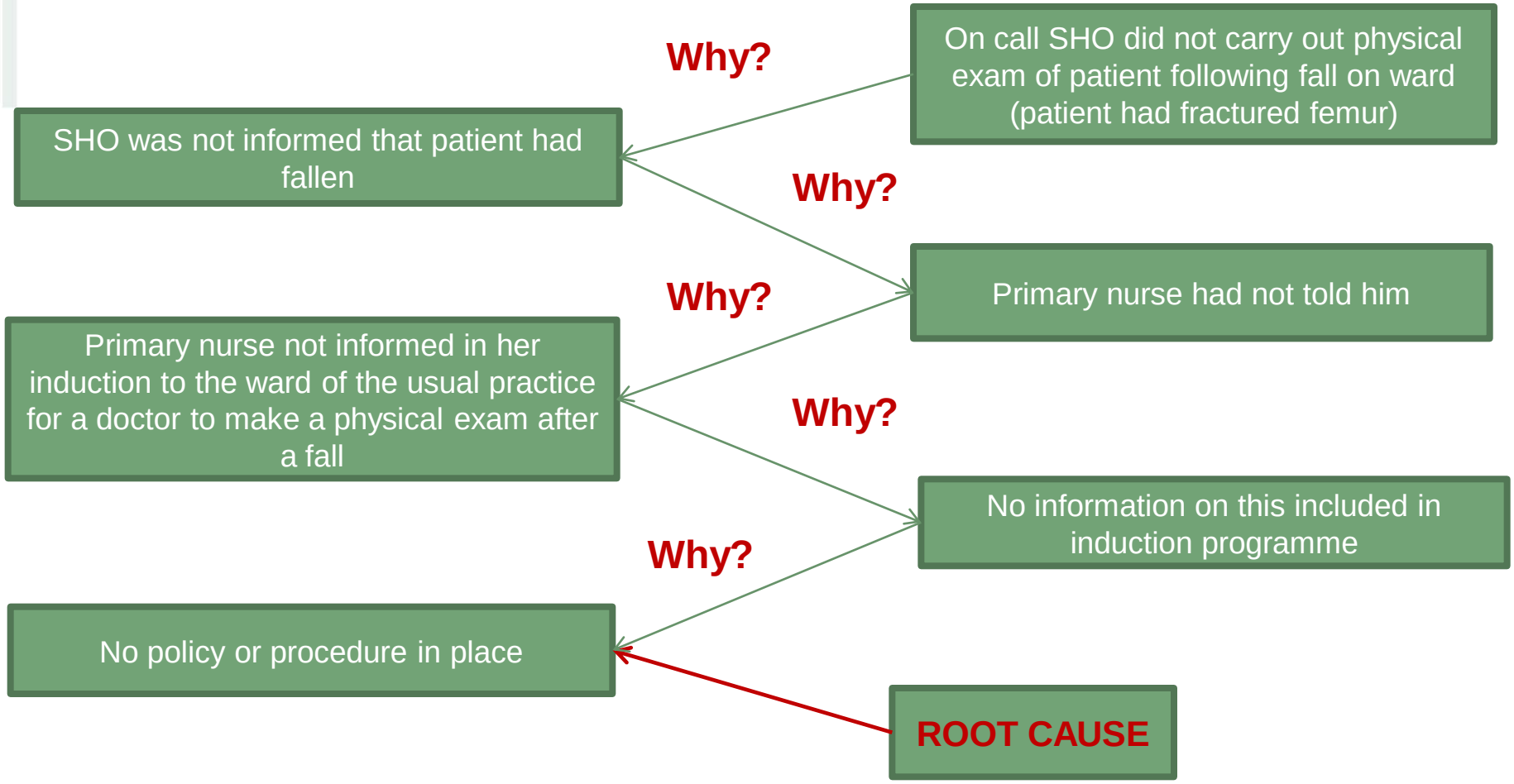


Click **Next** to continue

Five Whys

- Tool that enables investigator(s) to delve deeper into asking ‘why’ for each CDP/SDP to identify causes
- Best suited to simple and non-complex problems
- Quick and easy to use
- 3 – 5 – 7 whys?

Diagrammatic Example of 5 Whys Technique



Run Charts

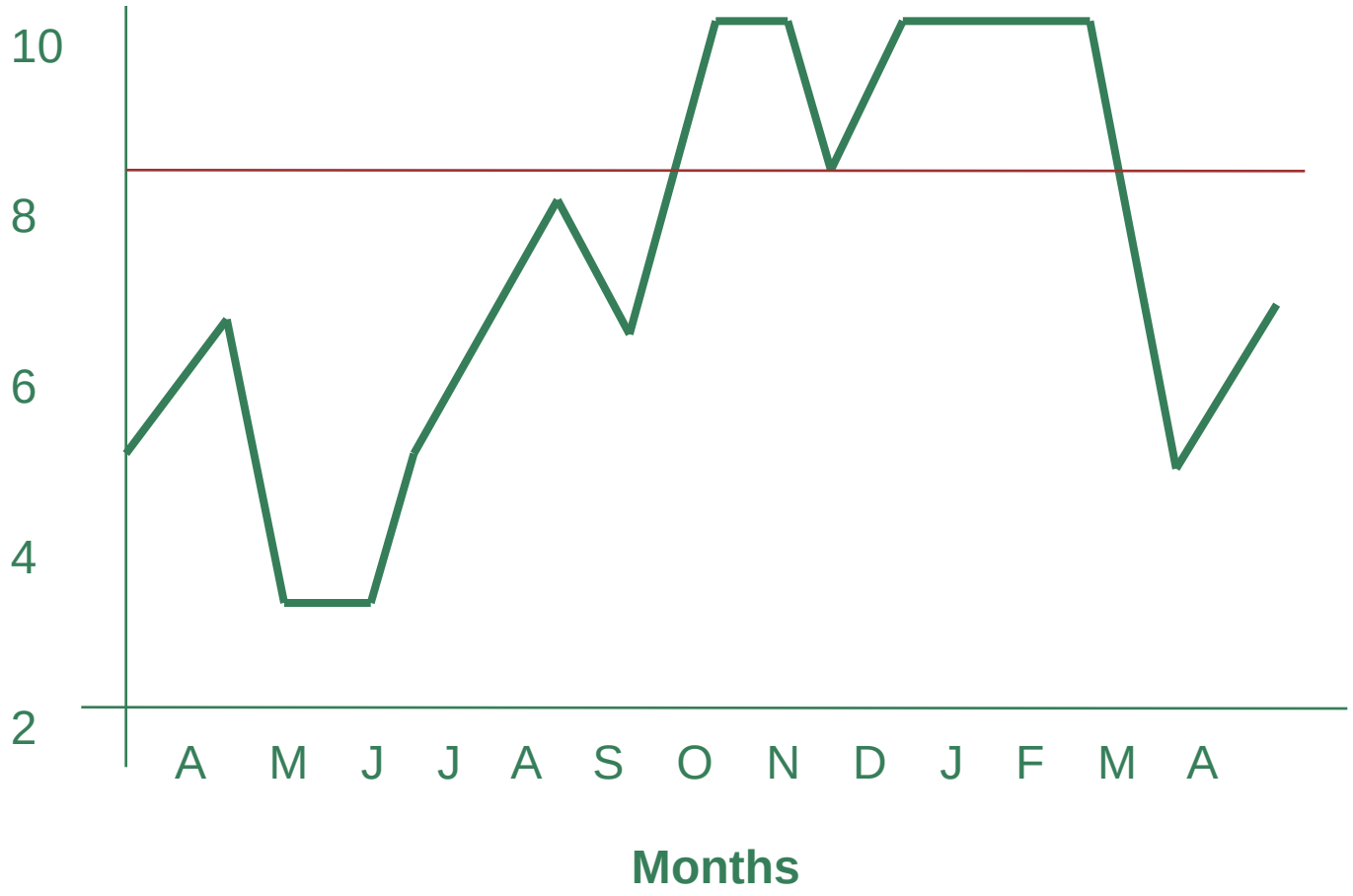
Purpose

- To identify trends and patterns in a process, over a specific period of time.

How to Construct Run Charts

- Decide what the chart will measure (what data / what period).
- Draw graph
- Plot the data points
- Plot a line that denotes the average of points
- Evaluate chart to identify meaningful trends
- Investigate the findings

Frequency of Restraint in A&E



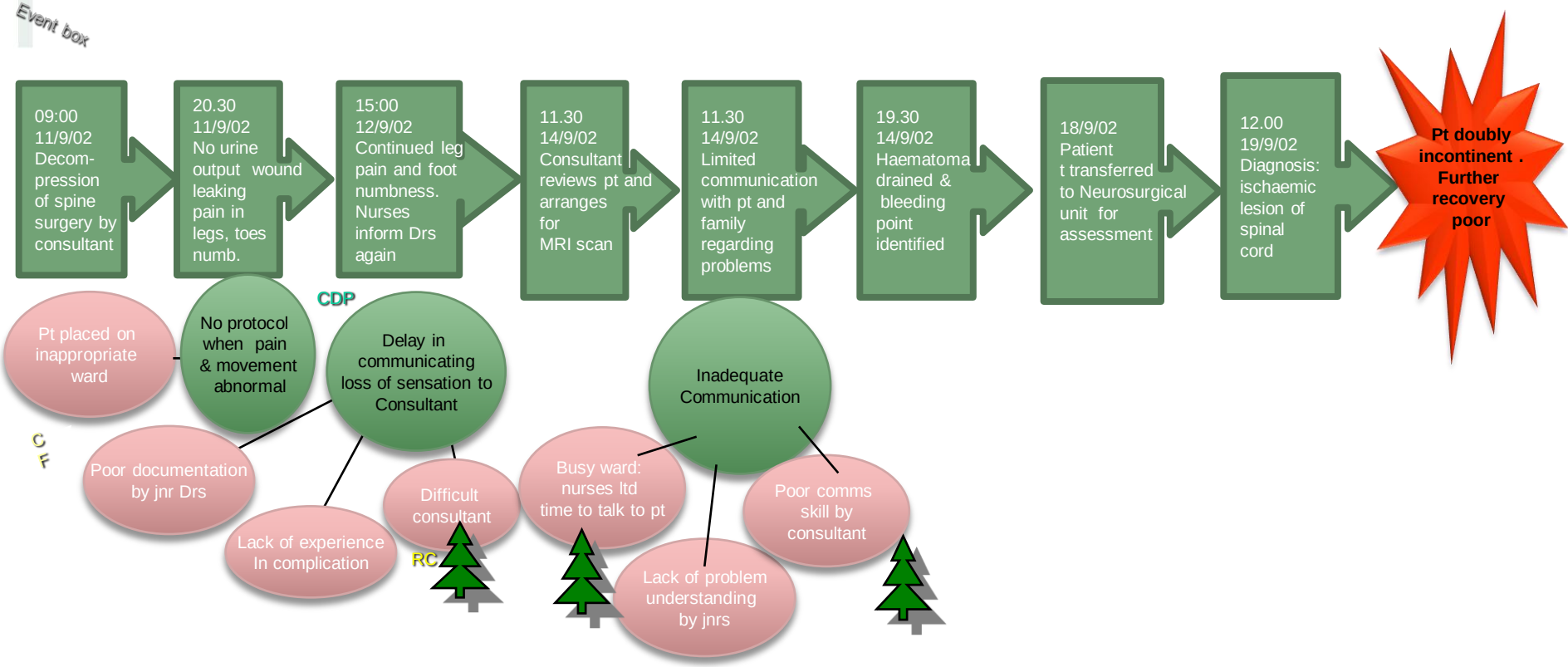
Cause and Effect Chart

Purpose:

- To present a clear picture of the many causal relationships between outcomes and the contributory factors in these outcomes.

- The event is plotted as a timeline and then the problems (CDP/SDP), contributory factors, questions and (ultimately root causes) are all mapped onto one chart

The Whole Cause and Effect Chart



Cause and Effect Symbols

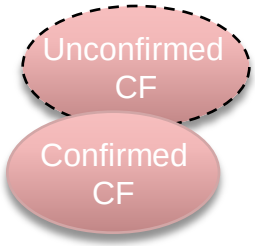
The event to be investigated

One box per action or step in the sequence of events (Date + time where necessary)

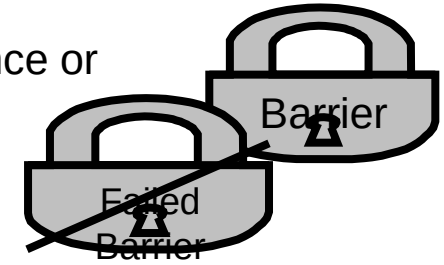
ROOT CAUSE

Care or Service Delivery Problem

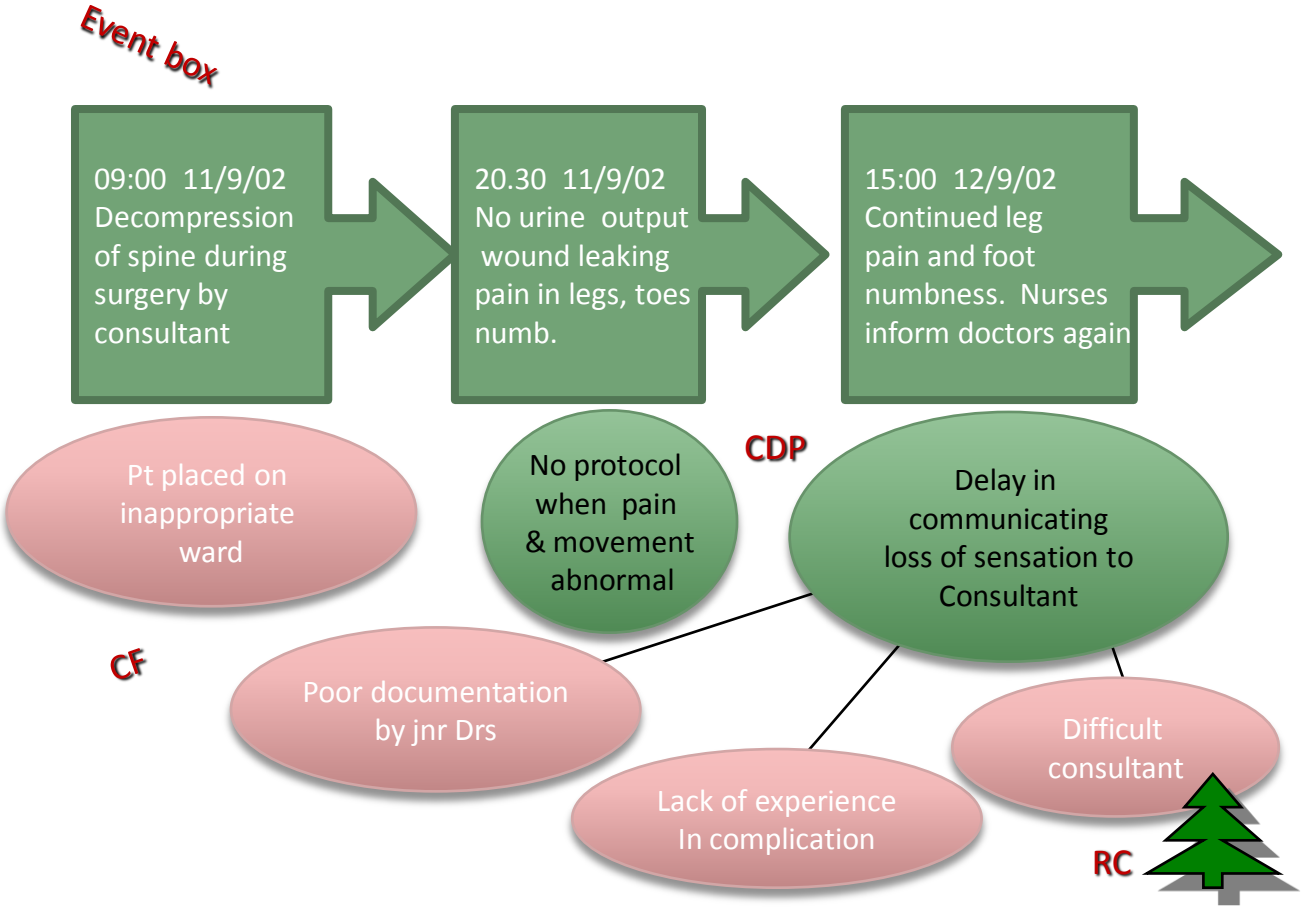
Contributory factors (confirmed or yet to be confirmed)



Control, Defence or Barrier



Example Cause & Effect Chart: Permanent Incontinence Case



Identifying the Root Causes

A Root Cause is one which, if resolved, will eradicate or significantly reduce the identified problem, both within the local department and more widely across the organisation.

OR…

ROOT CAUSE(S) = Those contributory factors having the biggest impact on system failure.

Group Work: Analysis

- In groups and continuing with the case study:
  - Use the fishbone and taxonomy to pick out the contributory factors associated with the incident.
  - Finally see if you can identify some ROOT CAUSES

Tea + Coffee

Some quotes from the Patient Safety Congress

- ‘Our challenge is to implement safer practices…true change is from the bottom up’

- ‘creating a non-punitive environment is difficult but we know that the first principle of patient safety is don’t punish people for making mistakes’

- Lucien Leape, April 30th 2009

Incident Decision Tree

- An electronic interactive tool designed for NHS managers dealing with staff who have been involved in an incident
  - Supports managers considering action and alternatives to suspension
  - Encourages fair and consistent treatment across the NHS
- Developed by NPSA, NCAA, NHS Confederation, Royal Colleges and Trade Unions

INCIDENT DECISION TREE*

Work through the tree separately for each individual involved

THE NHS CONFEDERATION

NHS National Patient Safety Agency

Start Here

Deliberate Harm Test

Were the actions as intended?

- NO → Were adverse consequences intended?
  - NO → Incapacity Test
  - YES → Consult NCAA or relevant regulatory body
    Advise individual to consult Trade Union Representative
    Consider:
    - Suspension
    - Referral to police and disciplinary/regulatory body
    - Occupational Health referral

    Highlight any System Failures identified
- YES → Were adverse consequences intended?
  - NO → Incapacity Test
  - YES → Consult NCAA or relevant regulatory body
    Advise individual to consult Trade Union Representative
    Consider:
    - Suspension
    - Referral to police and disciplinary/regulatory body
    - Occupational Health referral

    Highlight any System Failures identified

Incapacity Test

Does there appear to be evidence of ill health or substance abuse?

- NO → Foresight Test
- YES → Does the individual have a known medical condition?
  - YES → Foresight Test
  - NO → Consult NCAA or relevant regulatory body
    Advise individual to consult Trade Union Representative
    Consider:
    - Occupational Health referral
    - Reasonable adjustment to duties
    - Sick leave

    Highlight any System Failures identified

Foresight Test

Did the individual depart from agreed protocols or safe procedures?

- NO → Substitution Test
- YES → Were the protocols and safe procedures available, workable, intelligible, correct and in routine use?
  - NO → Substitution Test
  - YES → Is there evidence that the individual took an unacceptable risk?
    - YES → Were there significant mitigating circumstances?
      - YES → System Failure
        Review system
      - NO → Consult NCAA or relevant regulatory body
        Advise individual to consult Trade Union Representative
        Consider:
        - Referral to disciplinary/ regulatory body
        - Reasonable adjustment to duties
        - Occupational Health referral
        - Suspension

        Highlight any System Failures identified
    - NO → Advise individual to consult Trade Union Representative
      Consider:
      - Corrective training
      - Improved supervision
      - Occupational Health referral
      - Reasonable adjustment to duties

      Highlight any System Failures identified

Substitution Test

Would another individual coming from the same professional group, possessing comparable qualifications and experience, behave in the same way in similar circumstances?

- YES → System Failure
  Review system
- NO → Were there any deficiencies in training, experience or supervision?
  - YES → System Failure
    Review system
  - NO → Were there significant mitigating circumstances?
    - YES → System Failure
      Review system
    - NO → Consult NCAA or relevant regulatory body
      Advise individual to consult Trade Union Representative
      Consider:
      - Referral to disciplinary/ regulatory body
      - Reasonable adjustment to duties
      - Occupational Health referral
      - Suspension

      Highlight any System Failures identified

* Based on James Reason's Culpability Model

Concerns about suspensions

- Longstanding concerns about number and duration of staff suspensions in NHS.
- Seen as by-product of ‘blame culture’.
- Concerns borne out by NAO report 2003
  - available on their website www.nao.gov.uk

The IDT aims to encourage:

- Open reporting of patient safety incidents
- Fairness and consistency of approach within and between organisations.
- Consideration of alternatives to suspension.
- Help decision-makers think about systemic and organisational issues in error management.

The IDT can be used:

- By any manager dealing with staff involved in a patient safety incident
- For any employee, whatever their professional group.
- Must be worked through separately for each employee involved

Anecdotal findings from pilot - 2003

- Authority to suspend widely devolved.
- Nurses more likely to be suspended than other staff groups.
- The less experienced the manager, the more likely they are to suspend.
- Most incidents involve protocol violation.
- Widespread confusion re: ‘formal suspension’ and sending home in immediate aftermath.
- Electronic version of tool promotes better practice.

How the IDT works

- Based on flowchart.
- Structured questions move through 4 ‘tests’, examining individual’s actions, motives and behaviour at time of incident.
- Accompanying guidelines and illustrations.

How the IDT works

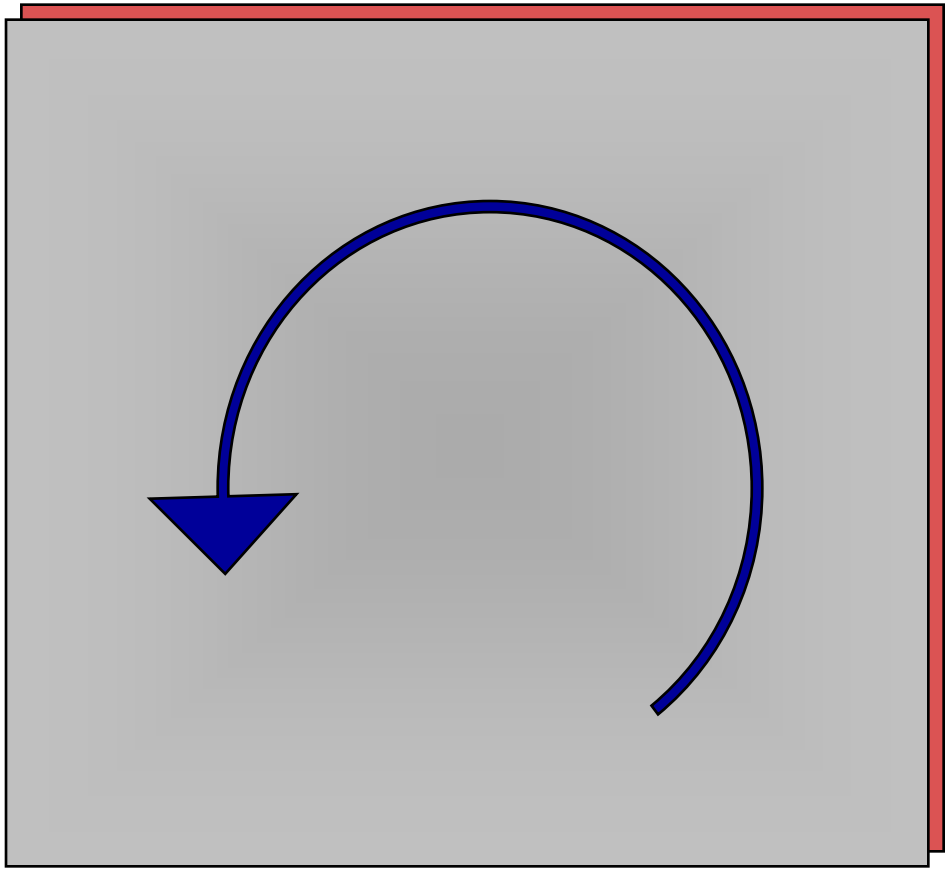
- The four sequential ‘tests’:
  - The Deliberate Harm Test
  - The Incapacity Test
  - The Foresight Test
  - The Substitution Test

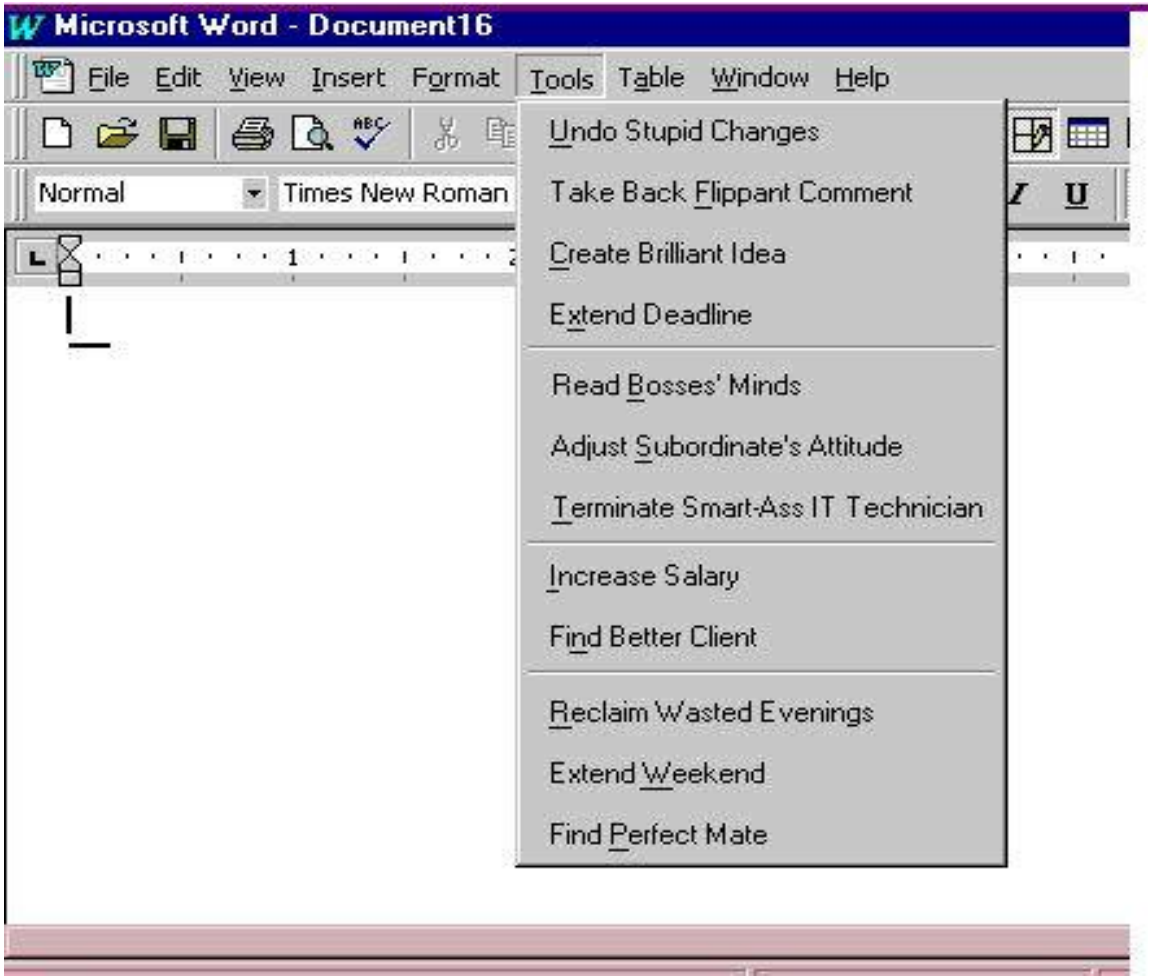
The Substitution Test

Generating Solutions

Generating Solutions

- Solutions / barriers must be FAILSAFE
- Failsafe Solutions are the keys to success
- Success = improved Patient Safety

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Take Back Flippant Comment
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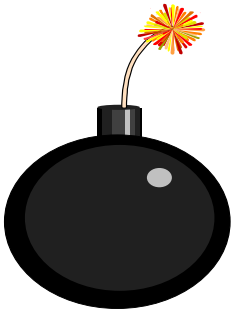
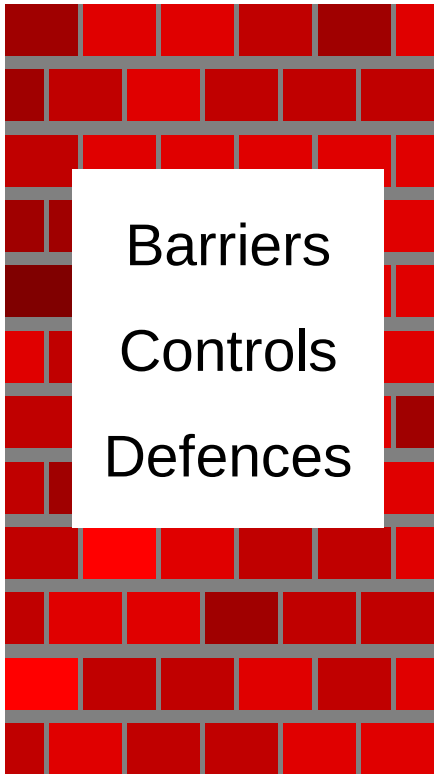
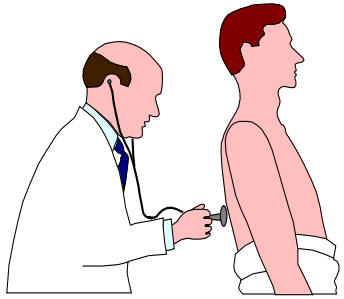
Extend Deadline
Read Bosses' Minds
Adjust Subordinate's Attitude
Terminate Smart-Ass IT Technician
Increase Salary
Find Better Client
Reclaim Wasted Evenings
Extend Weekend
Find Perfect Mate

How to Develop Failsafe Solutions
Barrier Analysis…



Hazard





Unsuspecting target

Barriers, Controls and Defences

Human Action Barriers

Checking the drug dosage before administering

Administrative Barriers

Protocols and procedures e.g. drug administration policy

Supervision and training

Natural Barriers time, distance, placement

Isolation of MRSA patients (placement)

Physical Barriers

Insulation on pipes

Lead apron for radiographer

Preventing errors

- Telling people to be more careful doesn't work
- Need easier, intuitive systems + solutions which:
  - Make wrong actions more difficult
  - Make incorrect actions correct
  - Make it easier to discover errors

Barrier Analysis can be used to solve problems:

Reactively:

- identify failed barriers
- identify missing barriers

Proactively:

- identify prospective barriers
- evaluate existing barriers

Performing a barrier analysis

1. Choose an activity to be analysed.
   - (e.g. preparing a patient for treatment)
2. Use Brainstorming techniques to list barriers.
3. Evaluate the efficacy of barriers - strong/medium/weak?
   - (barriers involving human action are generally weaker)
4. Identify how barriers could be improved / reinforced.
5. Assess Cost Implications.
6. Identify lead person - responsible for remedial action.

Generating Solutions & Recommendations

- If you have undertaken an RCA on your own you can only make recommendations…..
- .....You cannot move on to generating an action plan unless you have the authority to implement and the commitment and agreement of those involved

Generating Recommendations

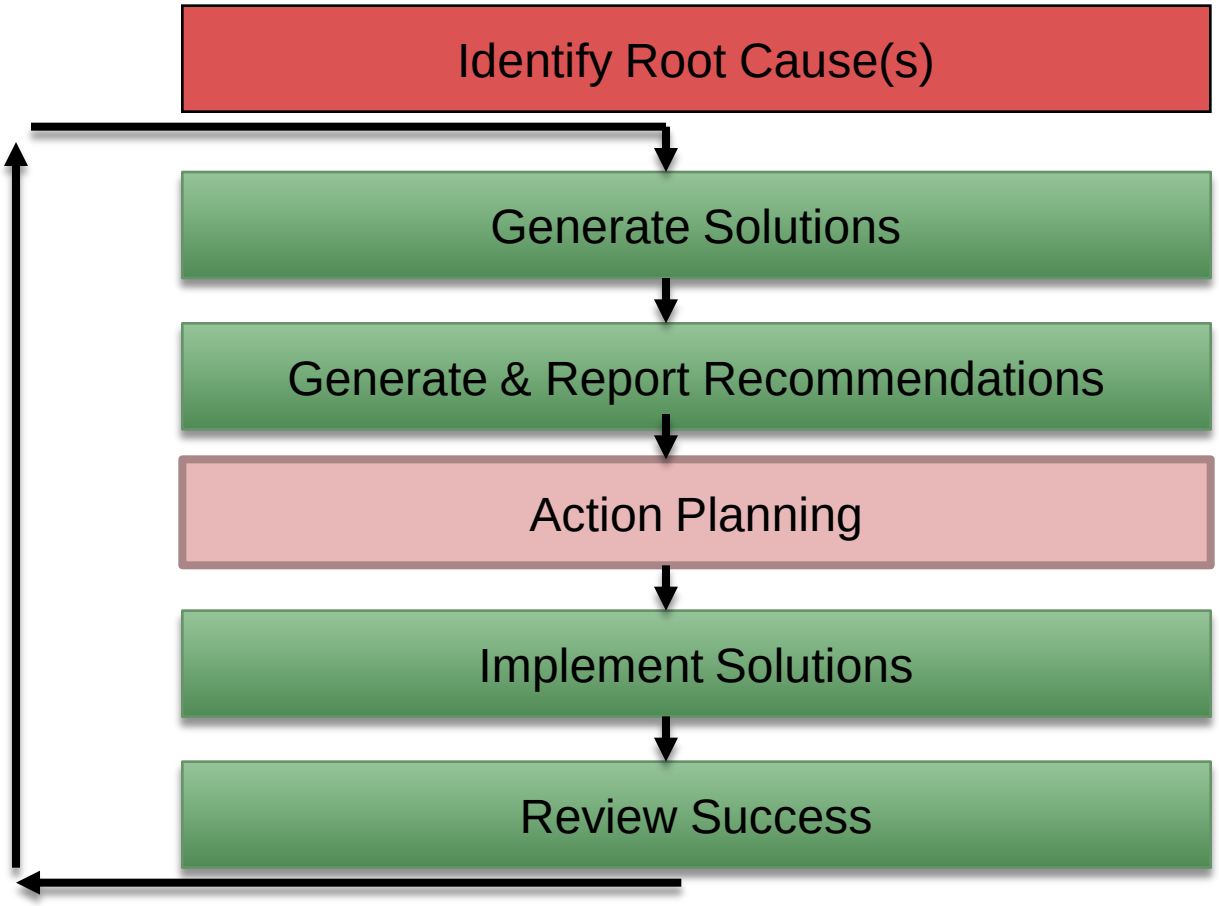
Key Points:

1. Focus on addressing the root causes.
2. Make explicit where responsibility lies for considering / acting on recommendations.
3. Make explicit the implications of doing nothing.

What to report to the Board

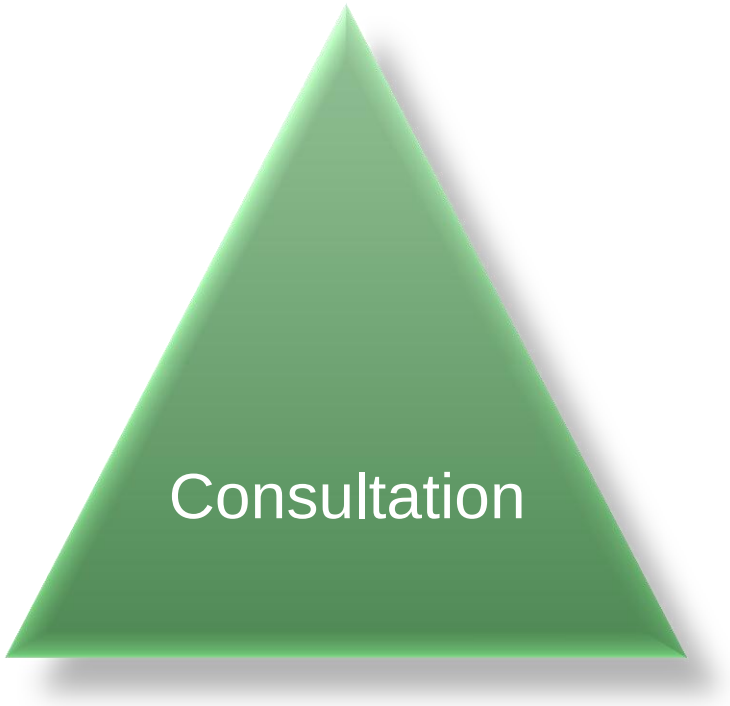
- Key messages only
- 2 to 3 pages maximum
- Executive Summary
  - Brief Chronology
  - Findings
  - Positive features
  - Recommendations for approval

The Solutions Process



Implementing Solutions

Solution Implementation



Consider the Impact

Share the Solution

Solution Implementation

Use Trust Structure

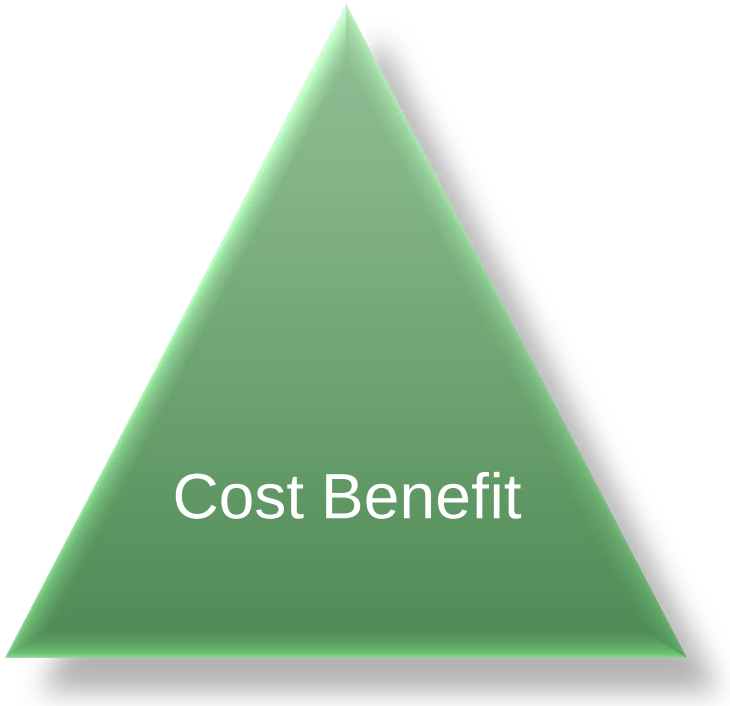
Liaise with Risk Manager

Risk Assess Solutions

Link with Risk Register

Review & Monitor

Solution Implementation



Analyse benefit of the solution

Ensure benefit outweighs cost
- Financially
- Organisationally
- Acceptability

Solution Implementation

Tips to make solutions SAFER:

1. Don't rely on memory
   - if you don't have to remember it - you wont forget it.

2. Makes things simpler ….
   - procedures that are easy to follow are inherently safer.

   If it is too complicated no-one will be able to figure it out.

Solution Implementation

- Evidence of change (however small) starts to move the culture from one of fear to one of participation

Thank you for listening

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