

TG 100 Workshop

(Session 7 of the TG100 Certificate Course)

Failure Modes and Effects

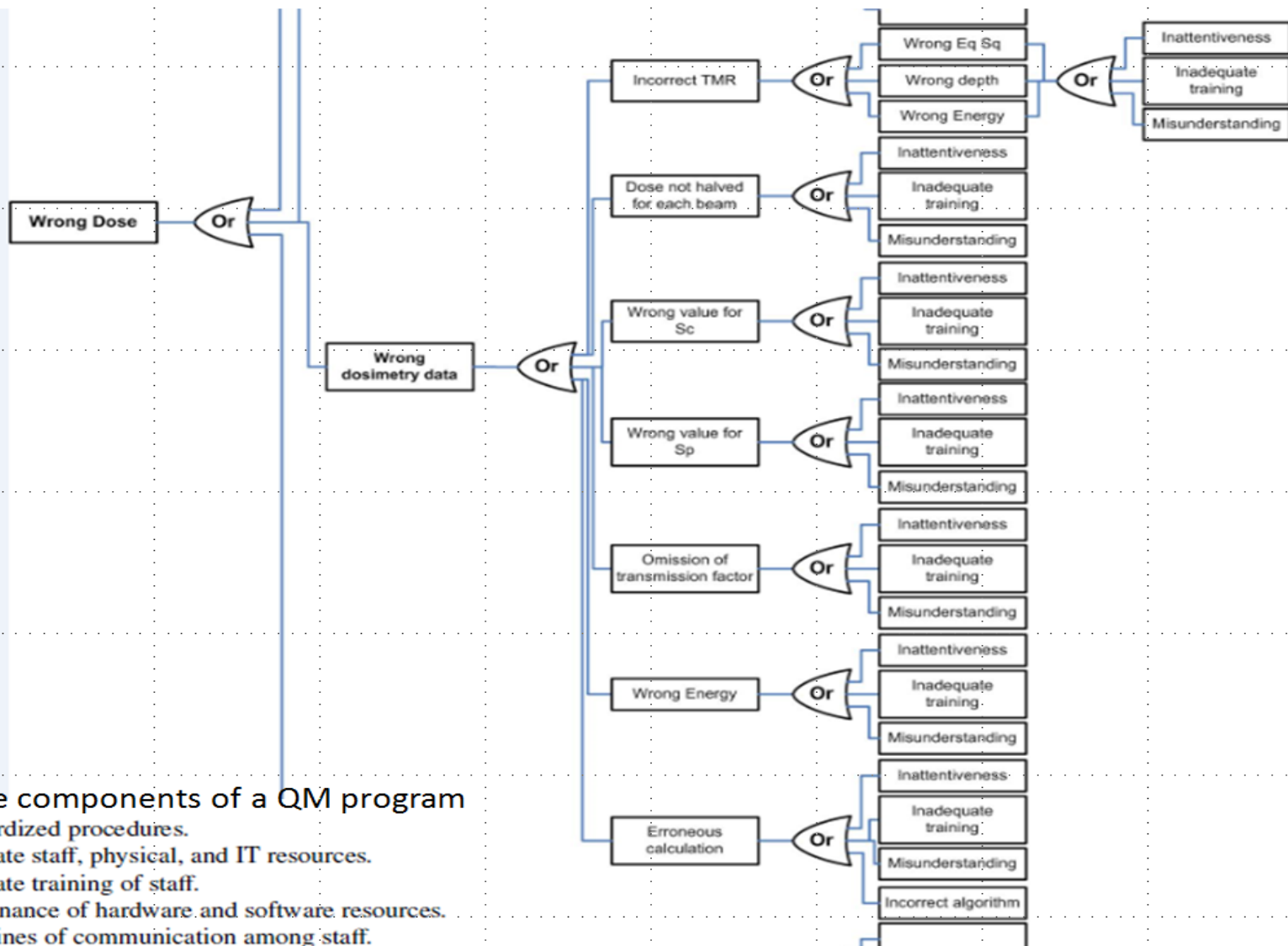
**Analysis – Exercise : emergency
treatment**

FMEA exercise – emergency treatment

Sub-process	Potential Failure Modes	Potential Causes of Failure	Potential Effects of Failure	O	S	D	RPN
Look up Dose values and perform MU calculations							

O, S, and D values

Rank	Occurrence (O) of Cause		Severity (S) of Effect		Detectability (D) of Failure Mode	
	Qualitative description	Frequency in %	Qualitative description	Descriptive	Qualitative description (likelihood of detection)	Probability of going undetected in %
1	Remote probability	0.01	No effect	No effect	Detection almost assured	0.01
2	Failure unlikely	0.02	Inconvenience	Inconvenience	Very high likelihood	0.2
3	Low probability – few failures	0.05	Minor effect	Effect only seen when reviewing large populations	High likelihood	0.4
4	Moderate probability	0.1	Noticeable effect	Suboptimal care for a patient	Moderate likelihood	1.0
5	Intermediate probability	<0.2	Limited toxicity	Minor undertreatment or small overtreatment	Intermediate likelihood	2.0
6	Occasional failures	<0.5	Undesired effect	Care that worsens the patient's life	Some likelihood	5.0
7	High probability	<1	Serious effect	Treatment or diagnostic failures that affect patient function	Low likelihood	10
8	Very high probability	<2	Possible very serious toxicity	Very negative effects on patient	Very low likelihood	15
9	Repeated failures	<5	Sentinel failure	Serious injury	Serious detection problem	20
10	Failure inevitable	>5	Catastrophic effect	Death or very serious injury	Detection unlikely	>20



Key core components of a QM program

- Standardized procedures.
- Adequate staff, physical, and IT resources.
- Adequate training of staff.
- Maintenance of hardware and software resources.
- Clear lines of communication among staff.

TG 100 and Beyond

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Exercise: Process Mapping

Think of some of the key sub-processes and steps for an **emergency treatment** and add them to the Process Tree.

