

unisanté

Centre universitaire de médecine générale
et santé publique • Lausanne

1. Introduction - example



What are the risks in my department/company?

Risk assessment and management in an emergency department, issues:

- Very broad definition of occupational health (physical and mental)
 - Multiple sources of risk
- Complex activities, many people involved

How to identify priorities?



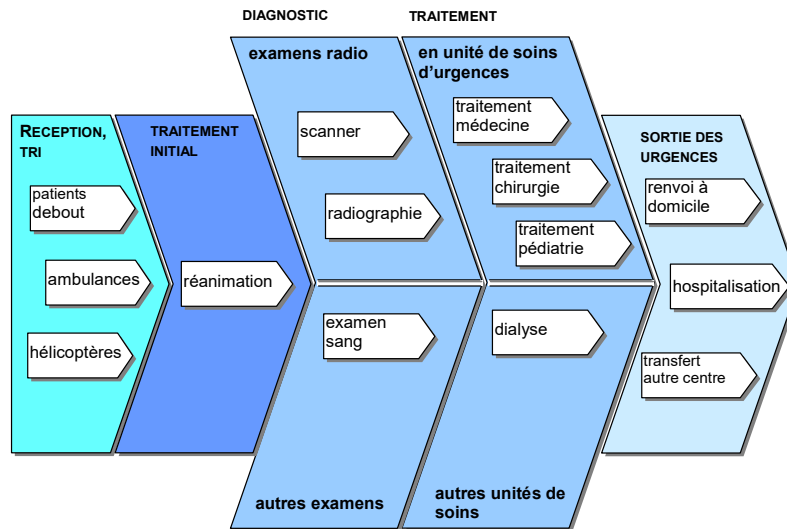
Approach

- Delimitations of the field of study
 - *identify excluded risks, responsibilities of the evaluator*
- Identify hazards
 - *group work, checklists*
- Quantifying the risk
 - *risk matrix, prioritization*
- Assessing the risk
 - *acceptance criteria*



Example, delimitation

- Activities related to the treatment of patients



- Included are

- All the staff of the department
- All the material and equipment necessary for the care and treatment

- Excluded are

- External staff
- Processes other than patient care and treatment

Example, hazard identification

- Mechanics
 - Movement of beds, movement of people, needle prick, cuts
- Chemicals
 - Medicinal substances, anesthetic gases, allergens...
- Physics
 - Noise, radiation, pressure vessels...
- Biological
 - Pathogens (blood, urine, aerosols...)
- Mental/emotional load
 - Difficult situations, aggressions, emergency work, responsibilities, upstream management



Example, quantification (I)

- SUVA (national occupational insurance fund)

- Severity of damage

➤ Damage to health

	Category	Criteria
Very severe	I	death
Severe	II	Severe disability
Medium	III	Slight disability
Low	IV	Injury with time off work
Very low	V	Injury without time off work

- Probability

➤ Per 1000 employees

	Category	Criteria
Very high	A	$\geq 1/\text{month}$
High	B	$\geq 1/\text{year to } < 1/\text{ month}$
Moderate	C	$\geq 1/5 \text{ year to } < 1/\text{year}$
Negligible	D	$\geq 1/20 \text{ year to } < 1/5 \text{ year}$
Almost impossible	E	$\geq 1/100 \text{ year to } < 1/20 \text{ year}$

Example, quantification

● Rollaway beds

N°.	Functions / Activities	Nr.	Dangerous Ph. Dangerous ev.	Damage / Injury	Estimation		Zone	Criterias
					G	P		
2.4	referral to a care or examination unit	2.4.2	to be rolled on the foot	crushing (toe, foot)	IV	B	2	already occurred, beds of 200-300 kg

● Contaminated objects

3.2	patient care	3.2.1	cut yourself with a potentially contaminated object (glass shards, scalpel blade....)	(a) hand cut, viral contamination (e.g. Hepatitis B)	III	B	1	
				(b) hand cut, viral contamination (HIV)	I	C	1	low risk of HIV transmission

– Each quantification is a study in itself!

- Difficulties: Lack of statistical values, exposure data, dose-response relationships...

Example, evaluation

- Risk acceptance matrix
- Limits
 - Chronic risks
 - Estimation of the probability

		SEVERITY				
		V	IV	III	II	I
P R O B A B I L I T Y	A					
	B					
	C					
	D					
	E					

Example, evaluation

- Chronic discomfort, work environment (stress, fatigue,...)
- Frequent minor accidents (mechanical, assault)
- Serious but rare accidents (contamination)

		SEVERITY				
		V	IV	III	II	I
P R O B A B I L I T Y	A	0.1.2, 1.3.2, 3.1.3, 3.4.4, 5.1.1, 5.5.1	0.1.4, 1.1.1, 1.3.1, 3.2.3,	3.2.1 a, 3.2.5, 3.3.3, 5.3.3,		
	B	0.1.5, 0.1.7, 1.2.1, 2.1.2, 3.1.5, 3.2.11, 3.4.1	0.1.1, 0.1.6, 1.2.2, 1.4.2, 1.4.3, 1.4.4, 1.5.1, 2.2.3, 2.2.4, 2.3.2, 2.3.3, 2.4.1, 2.4.2, 2.4.3, 2.4.4, 3.1.1, 3.1.2, 3.1.4, 3.4.2, 3.4.3, 5.3.7, 0.1.8			
	C	3.2.13, 5.4.1	0.1.3, 2.1.1, 3.1.4, , 3.2.9, 3.2.15, 5.3.2, 5.3.5, 5.3.6	1.1.2, 1.4.1, 1.4.5 a, 2.2.1 a, 2.2.2, 2.3.1, 3.2.2 a, 3.2.4 a, 3.2.7, 3.3.2 a, 5.5.3	3.2.1 b, 5.3.1,	
	D		5.2.1, 5.2.2, 5.3.2	3.2.6, 5.3.8, 5.4.2, 3.2.14		1.4.5 b, 2.2.1 b, 3.2.2 b, 3.2.4 b, 3.2.10, 3.3.2 b, 5.3.4,
	E		3.2.8	3.2.12		3.3.1,

Priorities for action



	Cible	Conditions
S	Structures, stratégies (management, bâtiments, installations, production, etc.)	Analyse de risques à refaire?
T	Technique: matières, outils, installations, énergies	Fiabilité assurée? Action autonome
O	Organisation: administration, consignes, instructions	Collectives "Compliance"?
P	Personnes: comportements, connaissance des risques	Ne pas s'arrêter au travail prescrit!