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Health, Safety and Risk Assessment in Workplaces

What is occupational Health and Safety?

1- occupational Health

الصحة المهنية : هي فرع من فروع الصحة الذي يهدف إلي الارتقاء بصحة العاملين في جميع المهن والاحتفاظ بها في اعلي درجات الرفاهية البدنية والنفسية والاجتماعية

2- occupational disease

الأمراض المهنية :هي الأمراض التي تصيب العامل نتيجة تعرضه بحكم عملة لبعض العوامل الضارة المرتبطة بطبيعة العمل .

3- work injuries

إصابات العمل : هي الإصابة التي تحدث نتيجة حادث يقع في مكان العمل وينتج عنة الوفاة أو الإصابة الشخصية أو المرض الحاد .

4- work accidents

حوادث العمل : هو حدث غير متوقع غير مخطط قد نتج عنة خسائر أو إصابات

5- stress

الإجهاد : هو كل التغيرات التي يمكن ملاحظتها في أداء العمل و التي ترجع إلي الاستمرار في أداء هذا العمل لفترة طويلة تحت الظروف العادية .

What are the main targets of occupational Health and Safety ?

- ما هى الاهداف الاساسية للسلامة والصحة المهنية:

1- protect of the human.

- حماية العنصر البشري من الإصابات الناجمة عن مخاطر بيئة العمل

2- protect of the resistances.

- الحفاظ علي مقومات العنصر المادي المتمثل في المنشآت.

2- preserving of the national economy .

-الحفاظ علي الاقتصاد القومي .

What is the methods assessment to Health and Safety ?

1-sensory method

طريقة الحواس : ويقصد بها استخدام الحواس الخمسة لتحديد المخاطر .

2- Measurement method

طريقة القياس : ويقصد بها استخدام أجهزة القياس لتحديد المخاطر .

RISK ASSESSMENT

تقييم المخاطر

Content

- **Concepts of Hazard and Risk in the legislation of EU**

مفاهيم الخطر والمخاطر وفقا لتشريع الاتحاد الأوربي

- ***Risk Assessment***
  - ***What is a risk assessment?*** *ماهو تقييم الخطر*
  - ***How do you do a risk assessment?*** *كيف يمكنك تقييم المخاطر*
  - ***How are the hazards identified?***
  - ***How do you rank or prioritize the risks?***
  - ***How do you know if the hazard is serious ?***

How do you do a risk assessment? *كيف يمكنك تقييم المخاطر*

ما هى اهم الوسائل التى يمكن من خلالها رصد المخاطر فى بيئة العمل وسائل رصد المخاطر :

»

1- inspection tours

- الجولات التفتيشية .

2- Meeting and discussions of the Committee on Occupational Safety

- اجتماعات ومناقشات لجنة السلامة العامة .

3- Recommendations of the manufacturers of machines or materials.

- توصيات الجهات الصانعة للآلات أو المواد الأولية .

4- Safety supervisor reports and department heads reports.

- تقارير مشرف السلامة وتقارير رؤساء الأقسام .

5- Employee Complaints.

- شكاوي العاملين .

Methods are analysis risk in workplaces

طرق تحليل المخاطر فى بيئة العمل ؟

١- الطريقة الاستقرائية (المسبقة) : وتعتمد علي تحديد العوامل المؤثرة في المخاطر وتحليل كافة هذه العوامل .

٢- الطريقة الاستنتاجية : يمكن إتباع هذه الطريقة بعد وقوع الحادث

explain the tapes risk in Workplaces

اشرح خطوات نظام تحليل المخاطر فى اماكن العمل

١- التعرف: يتم فيها التعرف علي المخاطر الموجودة في العمل أو الناتجة عنة وتحديد نوع هذه المخاطر إن كانت مخاطر(هندسية_فيزيائية_كيميائية_بيولوجية_بشرية)

٢- التقييم :يتم تقيم هذه المخاطر وتحديد مدي درجة خطورتها علي صحة العاملين نتيجة التعرض لها حيث يتم :

- تقيم وسائل السلامة الموجودة فعليا ومدي كفايتها .

- يتم أخذ العينات وتحليلها ومقارنتها بالمواصفات القياسية

٣- السيطرة والتحكم : حيث أنة يجب عدم الانتقال إلي الخطوة التالية إلا في حال استحالة تنفيذ الخطوة السابقة لها

ما هى أهم واجبات لجنة السلامة والصحة المهنية فى المؤسسات الصناعية؟

What are the most important duties of the Occupational Safety and Health Committee in industrial establishments?

- وضع وثيقة الصحة والسلامة المهنية في المنشأة .
- وضع الميزانية اللازمة لتحقيق السلامة والصحة .
- وضع التعليمات والشروط اللازمة لتحقيق طرق عمل فنية سليمة .
- دراسة تقارير مشرف السلامة والصحة المهنية .
- وضع برامج تدريب للعمل علي العمليات الخطرة .
- وضع العامل في عمل يتلاءم مع قدراته الجسمانية .
- توعية العمال بضرورة إتباع شروط السلامة .
- اختيار وسائل الوقاية الفردية والملابس المناسبة .
- المساهمة في وضع تعليمات الوقاية .
- دراسة ظروف الأعمال الجديدة ومدي الأخطار التي قد تنجم عنها .

Hazard and Risk Concepts in European Legislation

According to Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work ;

- ***General responsibilities of the employer;***

  In the article 6-2(a,b,c), 6-3(a) and 9 :

  Prevent risks and risk assessment has been mandatory to employers

- ***2002-2006 Strategy of European Union;***
  - **Creating risk prevention culture in the workplace,**
  - **Bringing a global approach to health and safety understanding,**
  - **Ensuring equality in the free market conditions.**

The Properties of New OSH Aproach ?

- ***Risk Assessment***
- **Participating of workers**
- **Providing expert contribution**
- **Informing of workers**
- **Training of workers**
- **Protection & Prevention Approach**

Risk Assessment

***The main aim of the risk assessment is* to protect workers' health and safety.**

And it is also helps to minimize the possibility of the workers or the environment being harmed due to work-related activities.

Risk Assessment

What is a risk assessment?

Risk assessment is the process of:

- Identifying hazards,
- Analysing / evaluating the associated risk
- Determining appropriate ways to eliminate or control the hazard

Risk Assessment

Risk assessment *helps to….*

- Determine if existing control measures are adequate or if more should be done
- Prevent injuries or illnesses when done at the design or planning stage
- Prioritize hazards and control measures

Risk Assessment

Hazard – the potential for something to cause harm– an intrinsic property…

Risk – the likelihood of that hazard to actually cause harm…

Risk = likelihood of an event (Probability) X severity of outcome

Risk Assessment

How do you do a risk assessment?

- Assessments should be done by a competent team of individuals who have a good working knowledge of the workplace.
- Involved / include staff, supervisors & workers who work with the process under review as they are the most familiar with the operation.

Risk Assessment

How do you do a risk assessment? …

• Include both people familiar with the work area, as well as people who are not – in this way you have both the "*experienced*" and "*fresh*" eye to conduct the inspection.

Risk Assessment

How do you do a risk assessment? *… To do an assessment:*

- *Identify* hazards,
- *Evaluate* the likelihood of an injury or illness occurring, and its severity,
- *Consider* normal operational situations as well as non-standard events such as shutdowns, power cuts, emergencies, etc.,

Risk Assessment

How do you do a risk assessment? *… To do an assessment:*

- *Review* all available health and safety information about the hazard such as MSDS's, manufacturers literature, information from reputable organizations, results of testing, etc.,
- *Identify* actions necessary to eliminate or control the risk

Risk Assessment

How do you do a risk assessment? *… To do an assessment:*

- Monitor and re-evaluate to confirm the risk is controlled,

- Keep any documentation or records that may be necessary (eg detailing the process used to assess the risk, outlining any evaluations, or detailing how conclusions were made).

Risk Assessment

How do you do a risk assessment? … When doing an assessment, take into account:

- The methods and procedures used in the processing, use, handling or storage of the substance, etc..

- The actual and the potential exposure of workers

Risk Assessment

How do you do a risk assessment? . . . When doing an assessment take into account:

- The measures and procedures needed to control such exposure by means of engineering controls, work practices, hygiene practices & facilities.

Risk Assessment

How are the hazards identified?

To be sure that all hazards are found:

- Look at all aspects of the work, include Non routine activities such as repair,maintenance or cleaning,
- Look at accident / incident / near-miss records,
- Include people who work "off site" either at home, on other job sites, drivers, teleworkers with clients, etc.,

Risk Assessment

How are the hazards identified?

To be sure that all hazards are found…

- Look at the way the work is organised or “carried out" (include experience and age of people doing the work, systems being used, etc),

Risk Assessment

How are the hazards identified?

To be sure that all hazards are found:

- Look at foreseeable unusual conditions (eg possible impact on hazard control procedures that may be unavailable in an emergency situation, power cut, etc.),
- Examine risks to subcontractors, visitors or the public

Risk Assessment

How are the hazards identified?
To be sure that all hazards are found:

- Include groups that may have a different level of risk such as **young or unexperienced workers, persons with disabilities, or new or expectant mothers.**

Risk Assessment

Table 1 Example of Risk Assessment				
Task	**Hazard**	**Risk**	**Priority**	**Control**
Delivering product to customers	Drivers work alone	May be unable to call for help if needed		
	Drivers have to occasionally work long hours	Fatigue, short rest time between shifts		
	Drivers are often in very congested traffic	Increased chance of collision		
		Longer working hours		
	Drivers have to lift boxes when deliverying product	Injury to back from lifting, reaching, carrying, etc.		

Risk Assessment

How do you rank or prioritize the risks?

•Ranking or prioritizing hazards is one way to help determine which hazard is the **most serious** and thus which hazard to **control first**.

•Priority is usually established by taking into account the employee exposure and the potential for accident, injury or illness.

Risk Assessment

How do you rank or prioritize the risks?

Assigning a priority to the hazards, creates a ranking or an action list.

The following factors play an important role:

- percentage of workforce exposed,
- frequency of exposure,
- degree of harm likely to result from the exposure
- probability of occurrence.

Risk Assessment

What options exist to rank or prioritize risks?
One option is to use a table similar to the following as established by the British Standards Organization:

Table 1
Risk Assessment by the British Standards Organization

Likelihood of Harm	Severity of Harm		
	Slight Harm	**Moderate Harm**	**Extreme Harm**
Very unlikely	Very low risk	Very low risk	High risk
Unlikely	Very low risk	Medium risk	Very high risk
Likely	Low risk	High risk	Very high risk
Very likely	Low risk	Very high risk	Very high risk

Note: These categorizations and the resulting asymmetry of the matrix arise from the examples of harm and likelihood illustrated within the British Standard. Organizations should adjust the design and size of the matrix to suit their needs.

Risk Assessment

Definitions for **Likelihood of Harm**

Very Likely - Typically experienced at least once every six months by an individual.

Likely - Typically experienced once every 5 years by an individual.

Unlikely - Typically experienced once during the working lifetime of an individual.

Very unlikely - Less than 1% chance of being experienced by an individual during working lifetime.

Definitions for **Severity of Harm**

Slight Harmful : accidents and illnesses not causing prolonged distress (eg. Small nicks, eye irritations, headaches, etc.)

Moderate harmful : accidents and ilnesses causing moderate, but prolonged or periodically recurring distress (eg. dermal allergy, wounds, simple fractures, etc.)

Extremely harmful : accidents and illnesses causing grave and permanent distress and /or death (eg. Amputations, cancer, second- or third degree burns on a very large body surface, etc.)

Definitions for **Severity of Consequences**

Very low - These risks are considered acceptable. No further action is necessary other than to ensure that the controls are maintained.

Low - No additional controls are required unless they can be implemented at very low cost (in terms of time, money, and effort). Actions to further reduce these risks are assigned low priority. Arrangements should be made to ensure that the controls are maintained.

Medium - Consideration should be as to whether the risks can be lowered, where applicable, to a tolerable level and preferably to an acceptable level, but the costs of additional risk reduction measures should be taken into account.

High - Substantial efforts should be made to reduce the risk. Risk reduction measures should be implemented urgently within a defined time period.

Very high - These risk are unacceptable. Substantial improvements in risk control measures are necessary so that the risk is reduced to a tolerable or acceptable level.If it is not possible to reduce the risk, the work should remain prohibited.

In general;

- Very high risk is unacceptable;
- Very low, low, medium and high risk is acceptable

If legal requirements are not complied with,

Risk is not acceptable !

Risk Assessment

How do you know if the hazard is serious** (poses a risk)**?

To research the hazard & determine its risklevel look at:

- Product information / manufacturer documentation
- Past experience (workers, etc)
- Legislated requirements and/or applicable standards

Risk Assessment

How do you know if the hazard is serious (poses a risk)?

To research the hazard & determine its risk level look at:

- Industry codes of practice / best practices
- Material safety data sheets (MSDSs),
- Information from reputable organizations
- Results of testing (atmospheric, air sampling of workplace, biological, etc)

Risk Assessment

How do you know if the hazard is serious (poses a risk)?

To research the hazard & determine its risk level look at:

- The expertise of a occupational health and safety professional
- Information about previous injuries, illnesses "near misses", accident reports, etc.

Risk Assessment

Include factors that contribute to the level of risk such as the:

- Work environment (layout, condition...)
- Capability, skill, experience of workers who do the work
- Systems of work being used.

Risk Assessment

Triggers for a review can also include:

- The start of a new project
- Change in the work process or flow
- Change or addition to tools, equipment, machinery (including locations or the way they are used)
- New employees
- Moving to a new building or work area,
- Introduction of new chemicals/substances
- When new information becomes available about a current product.

Risk Assessment

***RA should be*: Suitable**

A RA should take into account the severity of hazards well known in the type of activity / business.

It can only refer to concrete findings (or anticipated risks) on site and at a certain point of time.

Risk Assessment

RA should be: Sufficient

A RA should derive prioritised measures to improve the occupational health and safety situation according to the well known “hierarchy of prevention” and according to established legal principles…

Risk Assessment

RA should be: Systematic

It should follow a defined and logical methodology.

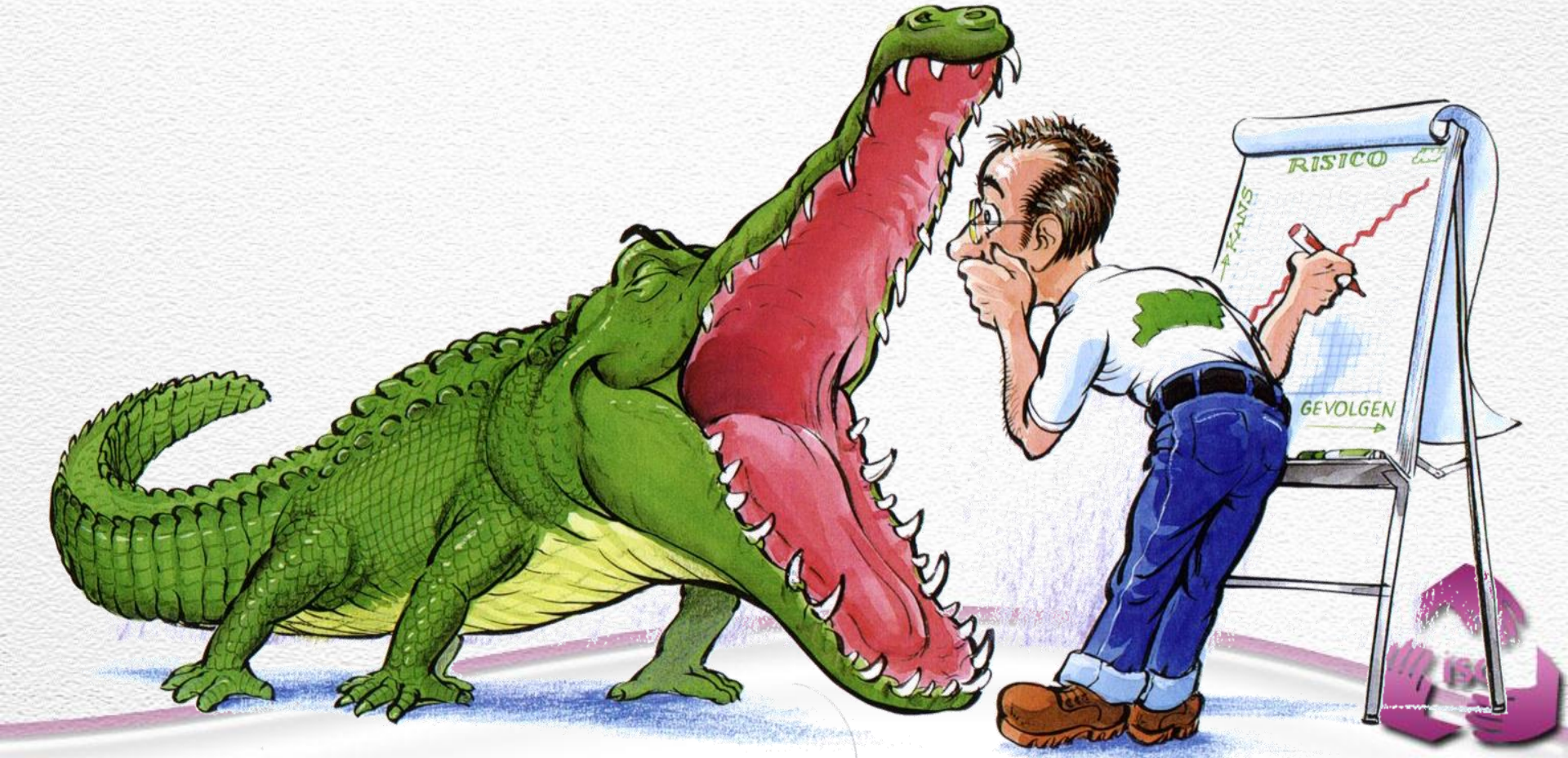
It should systematically lead to evidence based conclusions.

Principle of Crocodile

- Identify the risk

Principle of Crocodile

- Evaluate the risk



Principle of Crocodile

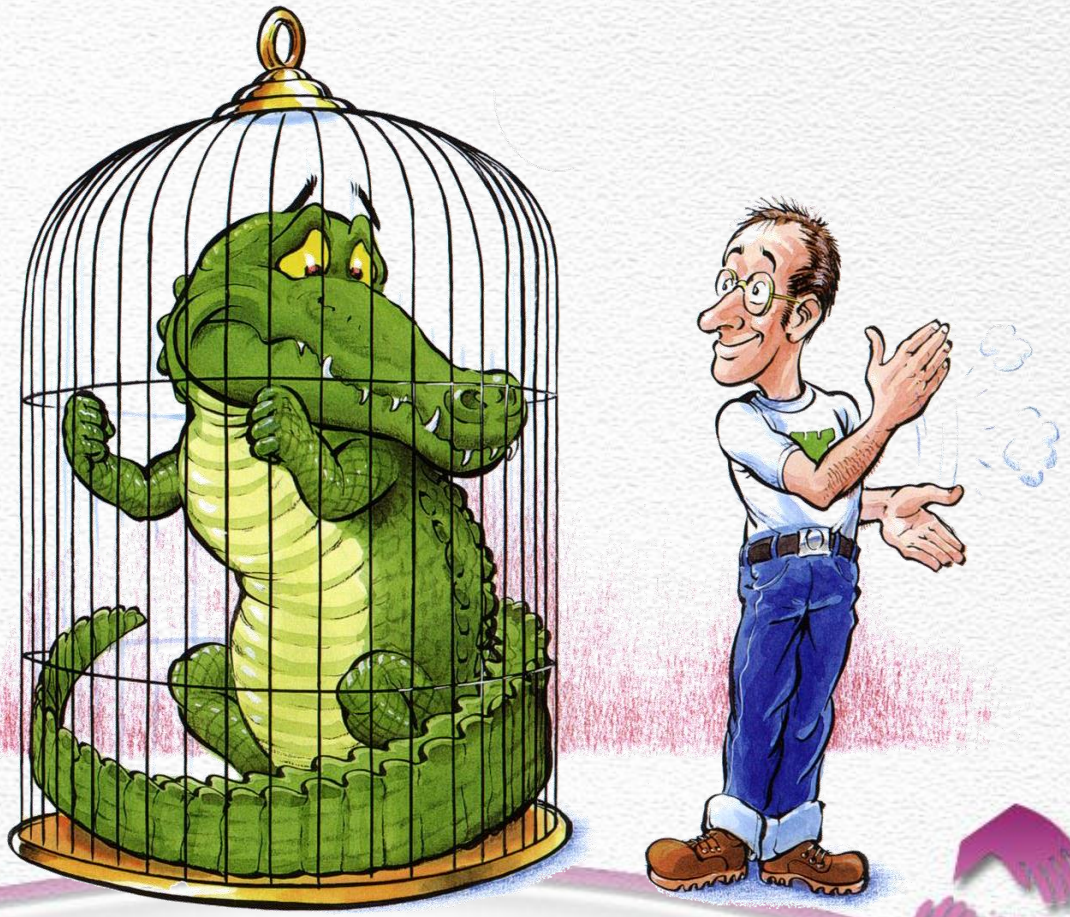
- Eliminate the risk

Principle of Crocodile

- Substitute the risk

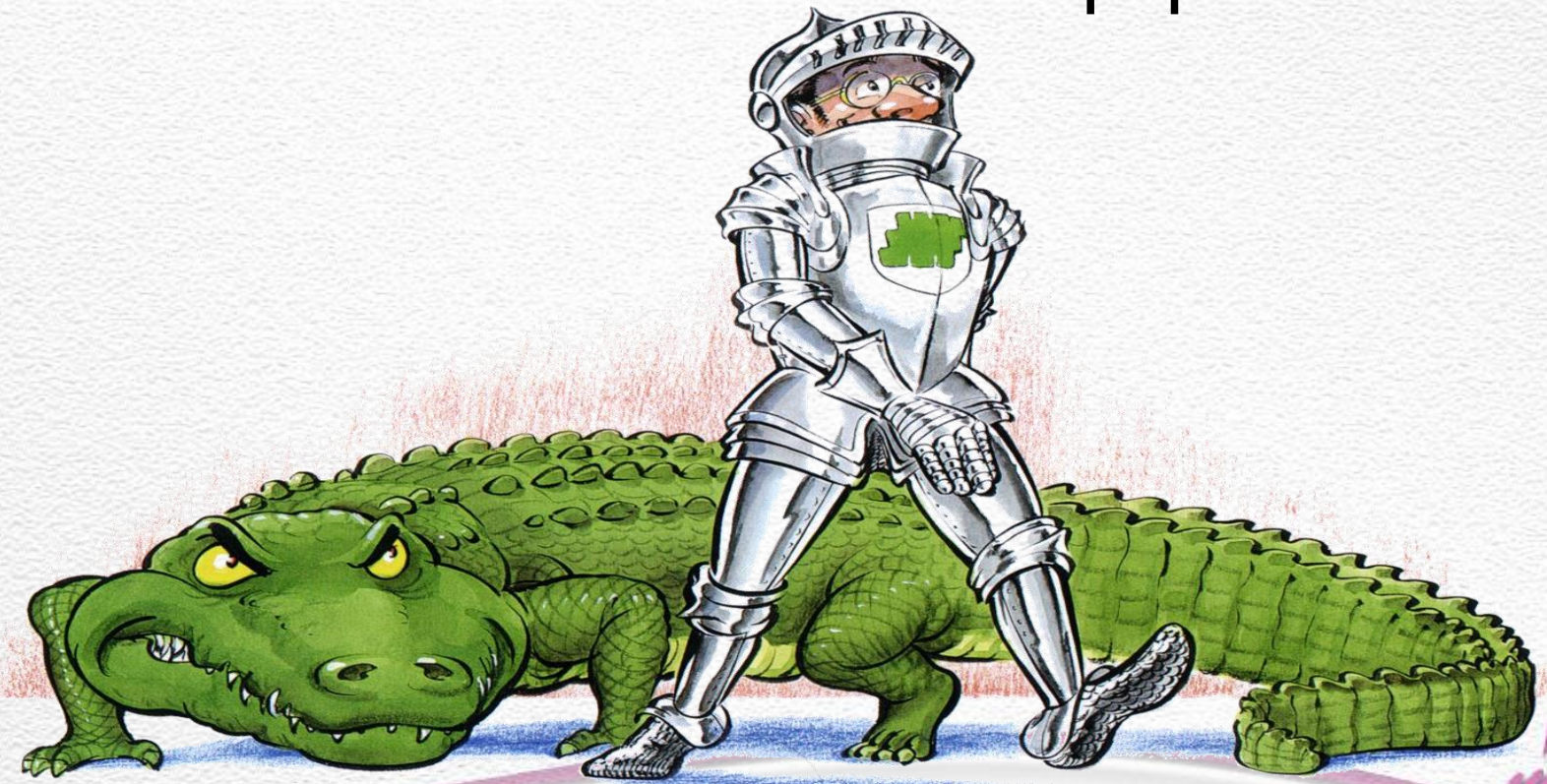
Principle of Crocodile

- Isolate the risk



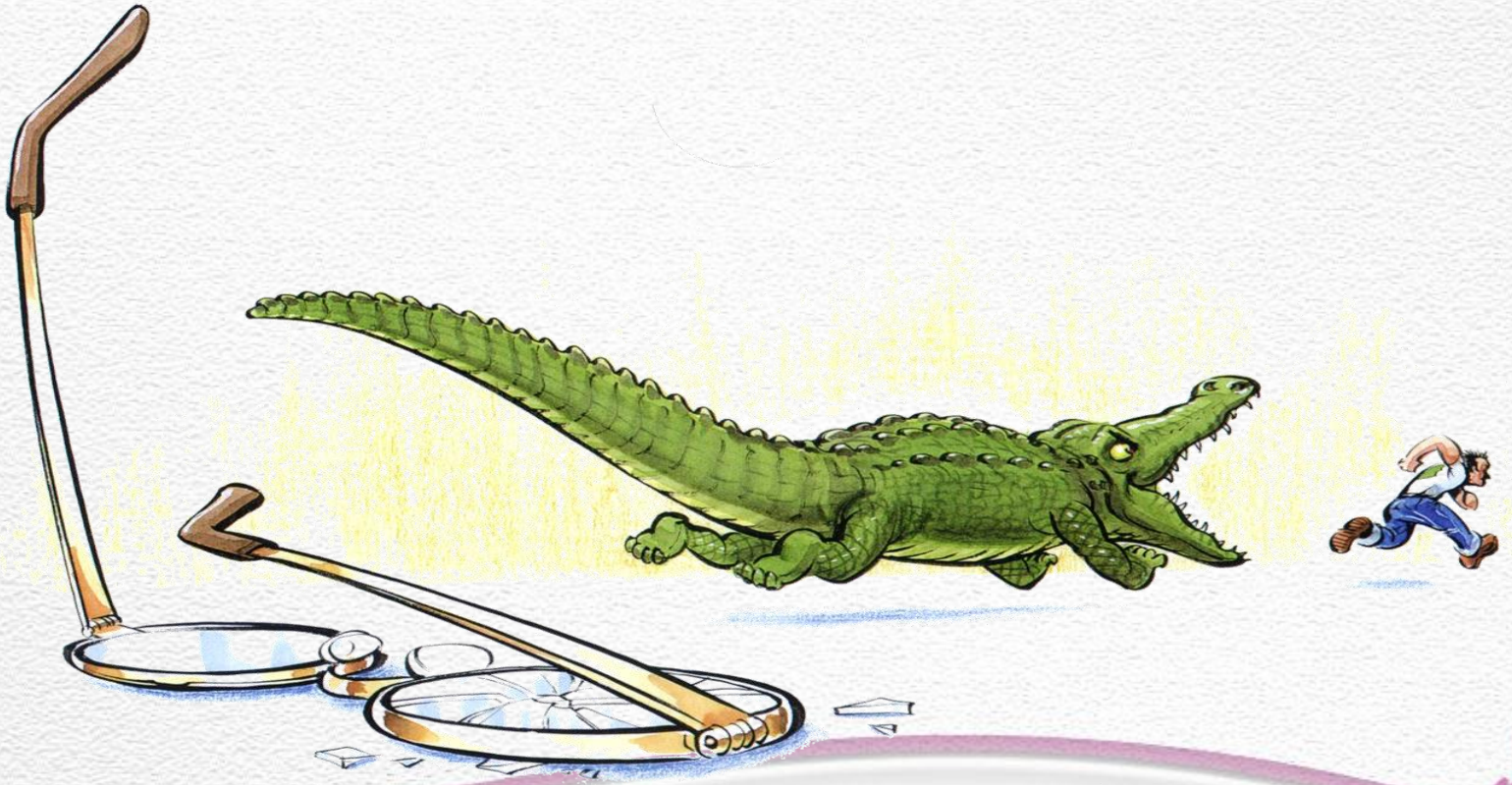
Principle of Crocodile

- Use Personal Protective Equipment



Principle of Crocodile

- Or else…….Run away !



Thank You For Your Attention !

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