Participatory strategy for the management of occupational risks

J. Malchaire
Catholic University of Louvain
Belgium

Summary
- Observations
- The basic principles
- The SOBANE strategy
- Déparis
  - Presentation
  - Procedure of application
- The role of OH practitioners

Classical approach to analyse the working conditions:
1. Recognition of a problem
2. Measurements by a specialist
3. Comparison to the limits
4. Decision or not to improve
5. Control measures designed by the specialist
6. Decision by the employer
7. Action or not

Specific evaluation sufficient for critical situations with concentrations, levels of noise... larger than the limits

No or limited participation of the workers who are at best « consulted »
Success?

Now
- More MSDs
- More problems of stress
- More problems of dissatisfaction

Multifactorial problems
No specific methods of analysis
Require a more general approach covering all aspects of the working conditions

Fundamental principles
1. Prevention is the objective, not assessment
2. Terminology
3. The available qualifications are complementary
4. The worker is the main actor of prevention
5. All the problems are linked
6. Preventive vs legalistic approach
7. Management vs. Evaluation (quantification)
8. The SMEs
**Principle 1: The prevention is the objective**

The employer must:
- Guarantee the safety and the health of the workers in all the aspects linked to the working situation.
- Implement all the general principles of prevention:
  - Avoid the risks
  - Evaluate the risks that cannot be avoided
  - Combat the risks at the source
  - Adapt the work to the individual...

**Accent placed**
- Not on protection and medical surveillance
- But on risk prevention

**Principle 2: Terminology**

- **Use of terms**
  - Work situations
    - Working conditions
    - Workplaces
  - OH practitioners
  - Experts

**The risk factors:**
- All factors of the work situation that might interfere with the health, safety and wellbeing of the workers:
  - Safety:
    - Accidents: work in height, unlevelled ground, use of a knife, electricity...
  - Health:
    - Occupational diseases: noise, solvents, manual handling
  - Wellbeing:
    - Comfort, personal development, stress, noise, shift work, autonomy, relations...
**Risk**

<table>
<thead>
<tr>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>• of an effect</td>
</tr>
<tr>
<td>• of a certain gravity (G)</td>
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</tbody>
</table>

Taking into account
| the exposure (E) to a risk factor |
| • and the conditions (C) of this exposure |

\[ R = E \times C \times G \]

**Expressions to be avoided:**

- Factor of hazard / danger
- Risk of a hazard / danger
- Dangerous risk
- Occasional risk
- Analysis of the risks and of the hazards
- Potential risk

- Between specialists: adequate terms
- In the field: «problems»

**Evaluation of the risks**

Risk = E : Exposure
* C : Conditions of exposure
* G : degree of gravity

\[ R = E \times C \times G \times T \]

**Principle 3:**

The available qualifications are complementary

- Workers
- Local management
- OH practitioners
- Occ. physicians
- Industrial Hygienists
- Ergonomists
- Experts
Organize the complementarity

All the conflicts of interest come from:
- a lack of understanding
- a lack of reflexion on the role of each one

Carefully consider what mean and imply multidisciplinarity interdisciplinarity

Discipline

- Ensemble of knowledge with its own group of experts and its own characteristics like
  - same objective and concepts
  - same capacities and methodologies

- Example:
  - Medicine (occupational), engineering, psychology (occupational)
  - Ergonomics, occ. Hygiene (>< toxicology)

Multi – pluri disciplinarity

- Actions in common of various specialists of various disciplines, toward the same objective

The actions can be:
- In parallel, without relations: Juxta - disciplinarity
- In an integrated way: inter - disciplinarity

Degree of interdisciplinarity

- Number of disciplines:
  - Occ. medicine
  - Engineering
  - Occ. psychology
  - Ergonomics
  - Occ. Hygiene

- Distance between those disciplines:
  - Engineer – Physician > Engineer - Hygienist

- Degree of integration
Conditions of the interdisciplinarity

- Various people from distinct complementary disciplines have a spirit of working in group, acquired
  - Not only by proximity
  - But by a deep analysis and a clear and non ambiguous clarification of
    - the common values
    - the personal and common objectives
    - the complementarities
    - the methods

**Principle 4:**

*the main actor of the prevention*

- Objective: Improve the wellbeing of the worker?
  - Therefore: no action relevant without the knowledge of the work situation that has only the worker
- The worker is then:
  - the main **actor** of the prevention,
  - and **NOT** the **object** of the prevention

**Principle 5:**

*The nature of the problems*

- The worker “lives" his work situation
  - Not as a succession of distinct and independent facts
  - **BUT** as a whole
    - the noise influences the relations
    - the technical organization between workplaces influences the risk of MSDs
    - the division of responsibilities influences the work content

“Everything is linked”
Global approach:

Whatever the problem (*noise, physical load, chemical agents, MSDs, stress*) ...

Consider them in the general context of the work situation

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Objectives

- No only to be below the legal indicators
- But to seek an optimal state of
  - health and wellbeing for the workers
  - technical and economical health for the company

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Principle 6:

**Exposure** preventive

**EPI**

**Effect**

- Intoxication
- Stress

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Principle 7:

*Management vs measurements*
Example

"The concentration in xxx is 48 ppm"
• Where? close, far from the sources...
• Level during what period of time?
  • instantaneous value,
  • average on 1, 5, 60, 480 min.
• In what work conditions?

REPRESENTATIVENESS?

Example

The worker is exposed to a noise level of 92 dB(A)"
• When? how many machines working...
• Where? close, far from the machines...
• Level during what period of time?
  • instantaneous value,
  • average on 1, 5, 60, 480 min.
• In what working conditions?

REPRESENTATIVENESS?
Postures of the shoulders

False excuses

- "What it is not quantified does not exist “
  “Engineers… ask us for quantitative data”

- "Quantitative evaluation leads to solutions"
  - How much? vs Why? and how?
  - The global vs the details

- "It is necessary to measure and quantify to determine whether there is a risk"
  - Limit versus continuity of the dose - risk relationship
  - Legalistic vs preventive approach

Quantification when it is indispensable for:

- Scientific research
- Dose - effect - response relationships
- Compensations
- Court
  - (Compare before – after)
- Deepen a particular point

Conclusions:

Evaluation of the exposure in quantitative terms

- Very complicated
- Long, expensive
- Little necessary at the beginning
- Little used in the field in a representative way
“The cost to measure the exposure correctly is greater than what several developing countries spend for health per capita per year.”

Paul Oldershaw
Control Banding

“It is not unusual to see more attention given to exposure assessment and monitoring than to risk prevention and control. The fascination exerted by sophisticated equipment and by numbers is, for some reason, greater than the interest in designing pragmatic solutions to prevent exposure.”

B. Goelzer (1996)

➡️ No measurements a priori costly long and difficult not representative

Prevention >>> measurements

Management >>> assessment

➡️ Develop methods applicable in SMEs And not only in the large companies
Conclusions

- Participation of the workers
- Start from a comprehensive approach
- Progressive approach
- Based on the people in the field
- Objective: the best possible conditions
- Measurements after, not before

The different levels of intervention
Philosophy of the strategy of Prevention of the occupational risks

SOBANE
Screening – Observation – Analysis - Expertise

A strategy
- actors
  - Artillery
  - Tanks
  - Infantry
- in time

≠ method

Management of public health

Expert - Prevention

Specialised dermatologist

Dermatologist

General practitioner

Myself

Screening

Observation

Analysis

Expert
Management of occupational health

- Expert
- Analysis
- Observation
- Screening

Workers, Management
Experts
Specialists
OH practitioners

People involved

- Workers
- Local management
- OH practitioners
- Occ. physicians
- Ind. Hygienists
- Ergonomists
- Experts

Prevention Strategy SOBANE

<table>
<thead>
<tr>
<th>Sophistication</th>
<th>Cost</th>
<th>Expertise</th>
<th>Analysis</th>
<th>Observation</th>
<th>Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of work situations</td>
<td>Number of risk factors</td>
<td>Expertise</td>
<td>Analysis</td>
<td>Observation</td>
<td>Screening</td>
</tr>
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</table>

Stage 1: Screening
- When? Systematically
- How? Opinions
- Cost? Very low
- Duration 10 min
- By whom? Workers + company management
- Knowledge - Working conditions - Hygiene: Very high - Low

Stage 2: Observation
- When a "problem" is detected
- How? Qualitative observations
- Cost? Low
- Duration 2 hours
- By whom? Workers + company management
- Knowledge - Working conditions - Hygiene: High - Average - Low

Stage 3: Analysis
- When? More complicated Cases
- How? Ordinary measurements
- Cost? Average
- Duration 1 day
- By whom? Same + specialists
- Knowledge - Working conditions - Hygiene: Average - High

Stage 4: Expertise
- When? Very complex cases
- How? Specialised measurements
- Cost? High
- Duration A few days
- By whom? Same + specialists + experts
- Knowledge - Working conditions - Hygiene: Low - Specialised
The first day of the intervention

**Level 1: Screening**

- Guide very simple to understand and use
- Fast and little costly

So as to be used
- By the workers and the local management

Conclusions:
- What to do to improve directly the situation
- What aspects require a more specific observation

One or 2 weeks later

**Level 2. Observation**

- Guide simple to understand and use
- A little more costly and time consuming

To study the risk qualitatively
- by the persons in the field
  - The workers
  - The local management

1 or 2 months later

**Level 3. Analysis**

- Method more sophisticated to understand and use
- More time consuming and more costly

- To study the risk qualitatively and quantitatively
  - When it is indispensable
  - To understand all the components of the risk factor
  - To identify more sophisticated solutions
3 months later

**Level 4. Expertise**

- Techniques complementary and specific for develop even more sophisticated solutions
- Knowledge and means very specific
- Very specialized persons
- Occasional and detailed studies according to recommendations specified by those who conducted the 3 first levels of the strategy and oriented toward a specific item

**Tools to implement the SOBANE philosophy**

1. Social facilities
2. Safety (accidents, falls...)
3. Machines and hand tools
4. Electricity
5. Fire and explosion
6. Lighting
7. Work on VDUs
8. Noise
9. Thermal environment
10. Chemical agents
11. Biological agents
12. Musculoskeletal disorders
13. Whole body vibration
14. Hand-arm Vibration
Stage 1, Screening

Dépistage
PArtnicipatif des RISques

Participative screening of the risks

Presentation version IV

<table>
<thead>
<tr>
<th>Situation of work:</th>
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<tbody>
<tr>
<td>1. Working areas</td>
</tr>
<tr>
<td>2. Work organization</td>
</tr>
<tr>
<td>3. Work accidents</td>
</tr>
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<td>4. Electricity, fire and explosions</td>
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<td>5. Controls and signals</td>
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<td>6. Work material, tools, machines</td>
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<td>7. Work postures</td>
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<td>8. Efforts and handling operations</td>
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<td>9. Lighting</td>
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<td>10. Noise</td>
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<td>11. Chemical and Biological risks</td>
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<td>12. Thermal environments</td>
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<td>13. Vibration</td>
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<td>14. Autonomy and individual responsibilities</td>
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<td>15. Work content</td>
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<td>16. Time constraints</td>
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<td>17. Relationships between workers and with the hierarchy</td>
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<tr>
<td>18. Psychosocial environment</td>
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</tbody>
</table>

Aspect

To be discussed

List of aspects to be discussed

Who can do what and when?

What can be done in practical terms in order to improve the work situation

Aspects that need to be studied more in details:

What items require further investigations at the level

Observation
**Priority**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>To be discussed</th>
<th>Who can do what and when?</th>
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- Situation unsatisfactory: Needs for improvements
- Situation partly satisfactory: To improve if possible
- Situation completely satisfactory

**General procedure**

1. Information by the direction on the aims and commitment to take account of the results
2. Definition of a small group of workstations forming a unit, a "work situation" (10 to 15)
3. Designation of a coordinator
4. Adaptation of the tools to the work situation
5. Constitution of a working group (4 to 7 people) with
   - key operators designated by their colleagues
   - at least 1 man and 1 woman if mixed group
   - supervisory staff

**Procedure**

6. Meeting of the group in a quiet room close to the working situation
7. Discussion on each heading
   - not to carry a score
   - but to determine
   - what can be made to improve the situation
   - what needs to be discussed ("Observation") more specifically
8. Synthesis by the coordinator
   - The list of the detailed solutions considered
   - The points that need to be studied more in detail
   - Who does what and when?
   - The short term action plan

**Report**

**Situation of work:**

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</table>
Synthesis of the measures suggested and of the complementary studies to perform

<table>
<thead>
<tr>
<th>N</th>
<th>WHO?</th>
<th>WHAT?</th>
<th>When?</th>
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<tbody>
<tr>
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<td>Date</td>
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</table>

10. Implementation of the action plans at short, medium and long terms
11. Periodically, repetition of the operation
12. Revaluation of the situation and modification of the action plans

Déparis

Advantages

- Directly participative: the workers and local management are the actors
- No measurements
- No sophisticated concepts
- Oriented WHY? and HOW?
- No evaluation scale: 😊 😞 😞
- Priorities defined
- Fast and economical

“Operationally validated” in 40 small companies:

- understood and readily operational
- not too long, not too short
- leads to solutions at short, medium, long term
- optimizes the intervention of the O.H.
- saves time and €
Interest of Déparis

- **Direct**
  - Dynamic management of
    - No only the traditional risks
    - But all the aspects that influence the wellbeing of the workers
  - Greater probability of success:
    - The solutions come from the workers

- **Indirect**
  - Progressive training in occupational health
  - Motivation
  - Change of paradigm
    - NOT avoid problems: costs, negative aspects
    - BUT gain efficiency: investment, positive aspect

Déparis

Disadvantages

- Socially highly committed
  - Difficult to organize the first time

- Need to check that no major problem was forgotten
  - Complementary checklist

Role of the OH practitioner

- **To make the partners**
  - Direction
  - Trade-unions
  - Workers
  - Safety and health Committee

Role of the OH practitioner:

- To adapt the methods at the 3 stages Screening, Observation and Analysis to the characteristics of the work situation in re-examining:
  - the terminology
  - the aspects taken in consideration

  Mother ➔ daughter
Daughters for some sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Category</th>
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<tbody>
<tr>
<td>Agence bancaire</td>
<td>Femmes de chambres</td>
</tr>
<tr>
<td>Alimentation</td>
<td>Garages</td>
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<tr>
<td>Atelier protégé</td>
<td>Imprimeries</td>
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<tr>
<td>Bois</td>
<td>Logistique</td>
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<tr>
<td>Construction</td>
<td>Maisons de repos</td>
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<tr>
<td>Cordistes</td>
<td>Nettoilage</td>
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<tr>
<td>Entreprises électriques</td>
<td>Soins de santé</td>
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<tr>
<td>Enseignement maternel</td>
<td>Tertiaire</td>
</tr>
<tr>
<td>Restaurants</td>
<td>Call centers</td>
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<tr>
<td>Jardiniers</td>
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</tbody>
</table>

Role of the OH practitioner:

- To follow closely or lead himself the first application of the methods
  - to avoid ambiguities
  - to follow the process
    - discussion
    - decisions
    - synthesis
- To periodically re-start the use of the strategy while taking care that the process develops itself in the company

Deming wheel

Quality of the work situation

Quality of the working situation

Time (years)
The energy

- Inertia
  - Lack of understanding
  - Lack of confidence
  - Resistance to changes
  - Fear of the unknown
  - Procrastination
  - Weariness, lassitude
  - Laziness

- Friction
  - Urgent >>> important
  - Regression to initial state of improvisation.

Sources of energy

- Someone outside the system, but not too much:
  - Internal OH practitioner
    - If outside the system
    - If influence on direction and workers
  - Occ. Physician
    - Il he get involved

- NOT
  - Labour inspectorate
  - External specialized practitioners

Quality of the working situation vs. Time

www.deparisnet.be
www.sobane.be
Jacques.Malchaire@uclouvain.be

Thank you for your attention...