

6. Ergonomic design -- force (including materials handling)

Topic	Consider	The situation is ...	If not 😊 (G), what's the <u>problem cost</u> ? *	What can be done to improve the situation right away?	By whom?	By when?	What does the quick solution cost? *	Need to check out more?
Gestures (movements) and forces	Not abrupt?	😊 (G) 😐 (Y) 😞 (R)						
	Not too hard or forceful?	😊 (G) 😐 (Y) 😞 (R)						
	No fast or repeated movements?	😊 (G) 😐 (Y) 😞 (R)						
Hand forces	Moderate, without bending or twisting?	😊 (G) 😐 (Y) 😞 (R)						
	Not using the hand as a hammer?	😊 (G) 😐 (Y) 😞 (R)						
Loads	Light?	😊 (G) 😐 (Y) 😞 (R)						
	Balanced?	😊 (G) 😐 (Y) 😞 (R)						

* Costs, in terms of time, effort and money: nothing (0), a little (\$), some (\$\$), or a lot (\$\$\$)



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Loads (cont'd)	Comfortable to grab (pick up) (e.g. good handles, no cutting edges, not slippery, not too hot or too cold)?	😊 (G) 😐 (Y) 😞 (R)						
	At a good height (i.e. picking up and putting down at waist level)	😊 (G) 😐 (Y) 😞 (R)						
	Back is not twisted or bent (depending on the situation)?	😊 (G) 😐 (Y) 😞 (R)						
	Carried only for a short distance?	😊 (G) 😐 (Y) 😞 (R)						
Mechanical devices	Appropriate for the task -- for heavy or unstable loads, hoists, trucks, etc. (pushed rather than pulled)?	😊 (G) 😐 (Y) 😞 (R)						
	Appropriate for the task -- for frequent movement: conveyor belts, etc.?	😊 (G) 😐 (Y) 😞 (R)						

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Mechanical devices (cont'd)	High standard?	😊 (G) 😐 (Y) 😞 (R)						
	Well-located?	😊 (G) 😐 (Y) 😞 (R)						
	Quick and easy to use?	😊 (G) 😐 (Y) 😞 (R)						
Training	About how to handle loads?	😊 (G) 😐 (Y) 😞 (R)						
	Appropriate to the work situation?	😊 (G) 😐 (Y) 😞 (R)						
Tiredness at the end of the day	Acceptable amount?	😊 (G) 😐 (Y) 😞 (R)						
Reporting hazards	Is there a procedure to report these ergonomic hazards?	😊 (G) 😐 (Y) 😞 (R)						
	Is the procedure easy to use and followed?	😊 (G) 😐 (Y) 😞 (R)						

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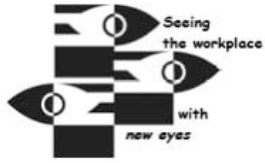


Therefore, the **overall situation** for *Ergonomic design -- force (including materials handling)* is:
Our questions are:



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Inspections - looking for all hazards **Using the SOBANE screening approach***

Workplace safety and health committee members must inspect their workplaces. Like many other activities, good inspections take time. It also takes time to learn how to do inspections.

For general guidance about the “how”, see ***Inspections -- how to do them*** (SH.3). Use it with this document as you learn the skills required.

This tool is designed to help you look for all the hazards in your workplace, by category. Using a screening approach, it lets you identify problems that require more information and detailed inspection or observations, while doing “quick fixes”. There are seven sections to this inspection tool; some have sub-topics:

1. **General working conditions**
2. **Safety/Mechanical hazards** (Traumatic injuries/incidents; Electricity, fire and explosions)
3. **Physical hazards** (Lighting; Noise; Temperature and humidity; Vibration)
4. **Chemical/Mineral hazards**
5. **Communicable/Biological hazards**
6. **Ergonomic design hazards** (Forms, controls and signals; Work materials, tools, machines; Repetition and postures; Force (including materials handling))
7. **Work organization hazards/stressors** Work procedures; Autonomy and responsibilities; Work content; Time

constraints; Relationships between workers and with management; Social and general environment

If you need to get into more details about ergonomic hazards, see SH.10 in this manual. If you need to look at other hazards, see the *Resource Guide* for other materials available elsewhere (e.g. noise, indoor air, chemicals).

Planning inspections with this tool

Don't be put off by the length of the document. It's designed to be thorough while the format makes it easy to read and use.

Start with a committee discussion about how to organise inspections. Set a deadline by which the whole workplace has to be done and work backwards from that to set time lines.

Always try to have two people work together. Members who are new to inspections could go with those who have more experience. Try to include one worker and one supervisor from each area that you inspect. Always plan on talking to people working in the areas you're inspecting.

Consider different ways to get through the entire workplace. Two-person teams can take one department and look for all hazards there. Teams can take one or two categories of hazards and look for those in the whole workplace.



Make sure that committee members have time to do a proper inspection. If it takes longer than expected, individuals should talk with the co-chairs and/or their supervisors about how to get the time they need.

How to use this inspection tool

Start with the hazard category in which you're interested. Decide if you want to look for all aspects of the category or for one of its sub-topics. The summary sheet at the back will help you choose.

Select the section of the inspection tool that you want to use. For each one, look at the columns about the general topic and what you should "consider".

The general topic about prevention measures may refer to a "level" of prevention. For more about these levels, see the Prevention triangle in this manual (SH.13) and *Part G Step 4: What fixes the hazards?*.

This is a screening approach – to find out if you need to do more and/or if a quick fix is possible. There are three main answers:



Green light (G): the situation's is just fine



Yellow light (Y): the situation is average, fix if possible



Red light (R): unsatisfactory situation, may be dangerous and changes are needed

Circle the appropriate "light". If it's not "Green (G)", go to the next column to estimate what the problem costs. There are four

categories: nothing (0), a little (\$), some (\$\$), or a lot (\$\$\$). There's a reminder line about this at the bottom of each page.

When you think about costs, also consider the legal term "**reasonably practicable**". It is used in the *Act* and regulations, usually to describe employer's duties (things they must do). The idea is important when making the case for health and safety changes. It can be a legal reason to justify spending money.

The words mean there must be a big difference between what it costs to fix a hazard (in time, effort and money) and what it costs to leave it alone. Only then is it not "reasonably practicable" to fix the problem. The more serious the hazard, the bigger the difference has to be before nothing has to be done, legally.

The next step is to figure out what can be done right away for a "quick fix". Who will do it? What deadline is reasonable? What might it cost?

Finally, it's important to decide if you need to check out more about the situation or hazard. Do you need more time to look at how something functions? Is a longer-term solution needed? Need more information? If so, mark it down in the last column.

Use the **summary** at the end of the document to list what still needs to be done, by whom, etc.

* This list is the result of adapting the Belgian SOBANE materials (see *Part F. Step 3: How do you find symptoms and hazards* in the manual) to the New Eyes approach. For the original SOBANE document in English, see http://www.sobane.be/langues/eng/the_mother_guide_deparis4_2006.doc.

