



### 13. Force - wrist and hand strain



What do you notice about wrist and hand strain/effort?

Note: For background information, see other side.

In conclusion, the current situation

is acceptable

needs improvement

What *specific* improvements can be made?

Should we analyze the situation or the proposed solutions in more detail?

no

yes - more detail on other side





## 13. Force - wrist and hand strain

Ergonomic  
design

| We looked at ...                      | Why be concerned? (consequences)   | Recommendations   |
|---------------------------------------|--|---|
| <b>Position of the wrist and hand</b> | <p>When force exerted is high (tightening, squeezing, etc.) or low but sustained (keyboard, mouse, etc.):</p> <ul style="list-style-type: none"><li>• fatigue</li><li>• joint problems</li></ul> <p>When the heel of the hand is used as a hammer or for squeezing:</p> <ul style="list-style-type: none"><li>• compressed tendons, nerves, blood vessels</li><li>• carpal tunnel syndrome, among others</li></ul> | <ul style="list-style-type: none"><li>• Reduce the following to a minimum:<ul style="list-style-type: none"><li>- tightening and squeezing</li><li>- exerting sudden force</li><li>- fine grasping with the fingers (pinch grip)</li><li>- using the heel of the hand as a hammer</li></ul></li><li>• Assess the need to tighten "to the max" (avoid as best as possible)</li><li>• Provide technical aids (types of couplings, sealing rings, etc.)</li><li>• Provide tools with long enough handles</li><li>• Provide hydraulic or electric tools</li><li>• Carry objects (files) in containers with handles to avoid pinching the fingers</li><li>• Use pliers or failing that, the whole hand, to grasp small objects, rather than the fingers which can only grip them (and use more force in the process)</li><li>• Provide regular breaks, even when minor effort is sustained</li></ul> |

Translated and adapted from SOBANE materials, available at [www.sobane.be/fr/tms\\_obs.html](http://www.sobane.be/fr/tms_obs.html)

