

# NO HARM WITH HARM



**TNO** innovation  
for life

Complaints of arms, neck and shoulders are important causes of sick leave. To reduce the chances for developing this type of complaints, it must be clear what the most important risk factors are. Targeted measures can be taken once these risks have been identified. The Hand Arm Risk Assessment Method (HARM) provides insight into these risk factors. HARM has been developed by TNO in cooperation with the Dutch labour inspectorate.

## HOW DOES HARM DETERMINE THE RISK?

HARM is a tool for determining whether hand-arm-tasks involve an increased risk of complaints of arm, neck or shoulder. HARM can be applied in all sectors of industry, for tasks:

- lasting at least 1 hour per day;
- where the exerted forces do not exceed 6 kg / 60 N.

Examples of such tasks are (de)assembly, packaging, using handtools and tasks of a hairdresser like cutting and blowing dry.

For each task HARM determines, in 7 steps, the risk of complaints of arm, neck and shoulder. These steps are related to the different factors contributing to the risk.

## STEP 1

Duration of the task, and breaks

## STEP 2

The most active hand (left or right)

## STEP 3

How much force is applied (magnitude, duration and frequency)

## STEP 4

Which body postures are being used

## STEP 5

Working with vibrating tools

## STEP 6

Other risk factors (high precision demands, climate, a bad grip)

## STEP 7

Risk evaluation by means of a traffic light model



### HOW CAN THE RESULTS OF HARM SUPPORT ME?

Application of HARM results in an overview of risk factors that are present in a work situation, and to what extent each risk factor contributes to the total risk. This information helps in taking targeted measures. In addition HARM suggests solutions aimed at reducing the risks for each risk factor.

### WHO CAN USE HARM?

HARM was developed for employers, Occupational Safety and Health experts, Occupational Safety and Health assistants, ergonomists or HR employees who want to gain insight into:

- risks for arm, neck and shoulder complaints

- main causes of these risks, so it becomes clear what would be effective measures

- effects of measures that have been taken (do these measures really reduce the risks?)



### WHERE CAN I FIND HARM?

Using the method does not require specific training or knowledge. The method is available online, free of charge, at:

[www.fysiekebelastingbeoordelen.tno.nl/en/](http://www.fysiekebelastingbeoordelen.tno.nl/en/)

On this website you can also find supplementary information about the method, as well as the Physical Load Checklist (for a first risk assessment of all aspects of physical work load) and the Working Posture Risk Assessment Tool (WRAP) for assessing risks associated with working in unfavourable postures.

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### HEALTHY LIVING

TNO initiates technological and social innovation for a healthy life and for a vital society.

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