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## 20. MODULE Office [ROSA]

- Introduction
- Data
- Report and Recommendations





## INTRODUCTION

**Scope of application.** The Office [ROSA] module allows the assessment of the main ergonomic risks associated with office workstations. The method is applicable to workstations where the worker remains seated in a chair, in front of a desk, using computer equipment with a display screen. It provides an overall task risk score and allows the identification of risk factors associated with the chair, monitor, telephone, keyboard, mouse, posture and exposure time.

**Content.** The tool collects information on the main workstation elements: chair, monitor, telephone, keyboard and mouse, assessing aspects such as heights, distances, adjustments, supports, working postures and conditions of use.

Based on this information, the software automatically calculates the partial scores and the final ROSA score, classifies the level of risk and provides ergonomic recommendations aimed at improving the workstation and prioritising preventive actions.

**Source.** The module is primarily based on the ROSA method, developed by Sonne, Villalta and Andrews (Sonne, M., Villalta, D. L. & Andrews, D. M. "Development and evaluation of an office ergonomic risk checklist: ROSA – Rapid Office Strain Assessment." *Applied Ergonomics*, 43(1), 98–108, 2012).

## DATA

Start by selecting the Office [ROSA] module in the New Task window (Figure 1).

This opens the main window of the module (Figure 2), where the data are entered.

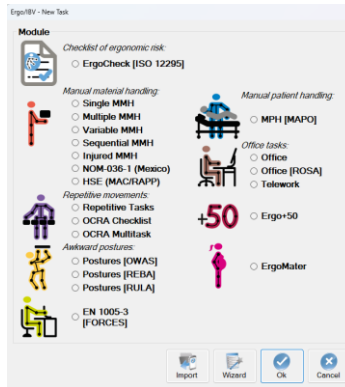


Figure 1: Office [ROSA] module entry

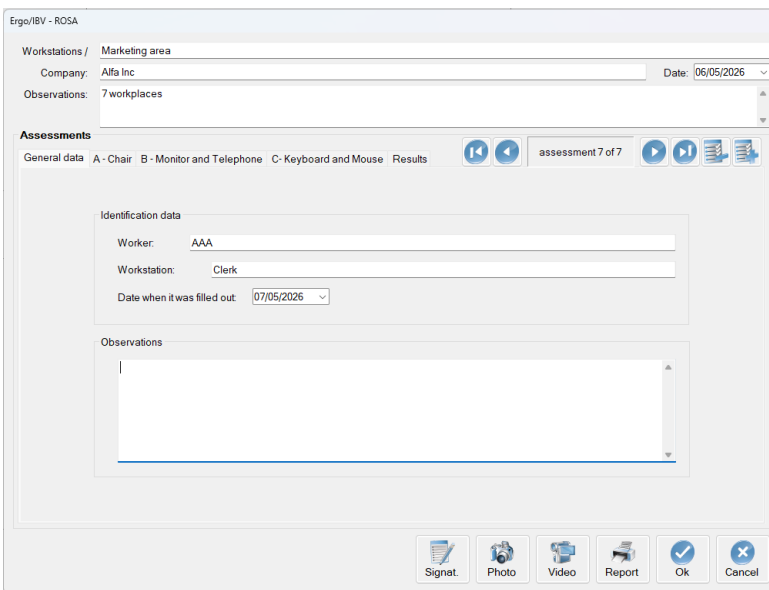


Figure 2: Office [ROSA] – Main window

**Identification.** The workstation / area name<sup>1</sup>, the company, the date of the analysis and the appropriate observations are recorded in the main window's header.

**Assessments.** This section is a database where the different office workstation/task assessments belonging to the same case are stored.

The assessment database is managed using the button bar located in the upper-right area of the window (Figure 3):

- The bar displays the number of the active assessment (relative to the total number within the current case) and includes buttons to navigate through the remaining assessments in the case (first, previous, next and last).
- The Delete button allows the active assessment to be removed after confirmation.
- The Add button creates a new blank assessment.

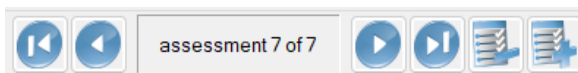


Figure 3: Button bar to manage the assessments

Within this section are the forms used to enter the data and results for each assessment. Each assessment is organised into the following tabs:

- **General data.** Allows the entry of identification data for the evaluated workstation/task.
- **A – Chair.** Form used to enter the assessment of the work chair.
- **B – Monitor and telephone.** Form used to enter the assessment of the monitor and telephone.
- **C – Keyboard and mouse.** Form used to enter the assessment of the keyboard and mouse.
- **Results.** Allows the assessment results to be viewed. This tab is only completed once all items in tabs A, B and C have been filled in.

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<sup>1</sup> Each case analysed using this module may contain one or more assessment questionnaires belonging to different workers from the same company, allowing collective analyses of the case to be performed.

The contents of each tab are described below.

### General Data.

For each questionnaire, the identifying information is recorded (Figure 4):

- the worker's name or acronym,
- the workstation name, and
- the date of completion.

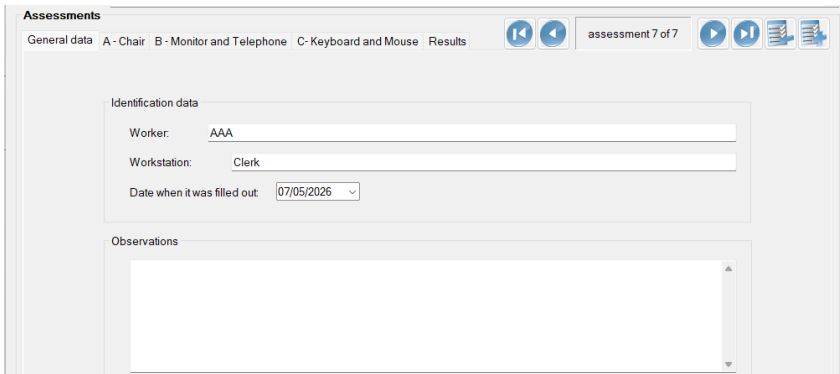


Figure 4. Assessment form – General data

### A - Chair.

This tab allows the chair data for the active assessment to be completed. The data are grouped into two tabs:

- Seat: Seat height and depth
- Armrests, Back support and Duration of Use

**Seat** (Figure 5). Enter the seat data:

- **Seat pan height.** Select one of the buttons to specify the existing situation at the workstation:
  - Neutral posture: knees at 90°

- Seat too low, knee angle  $<90^\circ$
- Seat too high, knee angle  $>90^\circ$
- No foot contact with ground

Tick the corresponding box(es) if the following also apply:

- Insufficient legroom under the desk
- Seat height not adjustable
- **Seat pan depth.** Select one of the buttons to specify the existing situation at the workstation:
  - Approximately 8 cm of space between the edge of the chair and the back of the knee
  - Seat pan length too long. Less than 8 cm of space between the edge of chair and the back of the knee
  - Seat pan length too short. More than 8 cm of space between the edge of chair and the back of the knee

Tick the corresponding box if the following also applies:

- Seat pan depth non-adjustable

Figure 5. Assessment form – A – Chair - Seat

**Armrests, Back support and Duration of Use** (Figure 6). Enter the data for the remaining chair components, as well as the duration of chair use during the working day:

- **Armrests.** Select one of the buttons to specify the existing situation at the workstation:
  - Elbows are supported at 90, shoulders are relaxed.
  - Armrests are too high (shoulders are shrugged)
  - Armrests are too low (elbows are not supported)

Tick the corresponding box(es) if the following also apply:

- Armrests are too wide
- The armrests have a hard or damaged surface
- Armrests or arm support non-adjustable

- **Back support.** Select one of the buttons to specify the existing situation at the workstation:
  - Proper back support. Backrest reclined between 95 and 110°.
  - No lumbar support or lumbar support not positioned in small of back.
  - Back support is reclined too far forward (less than 95°) or too far back (greater than 110°).
  - No back support or worker leaning forward.

Tick the corresponding box(es) if the following also apply:

- Work surface too high (shoulders shrugged)
- Back support non-adjustable

- **Chair Duration of use.** Select one of the buttons to specify the daily duration of chair use:
  - Less than 30 minutes continuously or less than 1 hour per day
  - Between 30 minutes and 1 hour continuously or between 1 and 4 hours per day

- More than 1 hour continuously or more than 4 hours per day

Figure 6. Assessment form – A – Chair – Armrests, Back support and Duration of Use

## B – Monitor and Telephone.

This tab allows the data for the screen/monitor and telephone to be completed for the active assessment (Figure 7).

- **Monitor.** Select one of the buttons to specify the existing situation at the workstation:
  - Screen at arm’s length (40-75 cm). Screen positioned at eye level.
  - Screen too low (30° below eye level) causing neck flexion to view screen.
  - Screen too high (causing neck extension to view screen).

Tick the corresponding box(es) if the following also apply:

- User required to twist neck in order to view screen
- Glare on screen
- Document holder not present and required
- Screen too far (outside of arm’s length (75 cm))

- **Monitor duration of use.** Select one of the buttons to specify the daily duration of screen use:
  - Less than 30 minutes continuously or less than 1 hour per day
  - Between 30 minutes and 1 hour continuously or between 1 and 4 hours per day
  - More than 1 hour continuously or more than 4 hours per day
  
- **Telephone.** Select one of the buttons to specify the existing situation at the workstation:
  - Headset / One hand on phone & neutral neck posture. Telephone nearby (within 30 cm).
  - Telephone too far of reach (>30 cm)

Tick the corresponding box(es) if the following also apply:

- Phone held between neck and shoulder
- No hands-free option
  
- **Telephone duration of use.** Select one of the buttons to specify the daily duration of phone use:
  - Less than 30 minutes continuously or less than 1 hour per day
  - Between 30 minutes and 1 hour continuously or between 1 and 4 hours per day
  - More than 1 hour continuously or more than 4 hours per day

**Assessments**

General data A - Chair B - Monitor and Telephone C - Keyboard and Mouse Results

assessment 8 of 8

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**MONITOR**

Screen at arm's length (40-75 cm). Screen positioned at eye level.

Screen too low (30° below eye level) causing neck flexion to view screen.

Screen too high (causing neck extension to view screen).

User required to twist neck in order to view screen.

Document holder not present and required.

Screen too far (outside of arm's length (75 cm)).

Glare on screen.

**Duration of use**

Less than 30 min continuously or less than 1 h per day

Between 30 min and 1 h continuously or between 1 and 4 h per day

More than 1 h continuously or more than 4 h per day

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**TELEPHONE**

Headset/ One hand on phone neutral neck posture. Telephone nearby (within 30 cm).

Telephone too far of reach (>30 cm).

Phone held between neck and shoulder.

No hands-free option.

**Duration of use**

Less than 30 min continuously or less than 1 h per day

Between 30 min and 1 h continuously or between 1 and 4 h per day

More than 1 h continuously or more than 4 h per day

Figure 7. Assessment form – B – Monitor and Telephone

## C – Keyboard and Mouse.

This tab allows the keyboard and mouse data for the active assessment to be completed (Figure 8).

- **Keyboard.** Select one of the buttons to specify the existing situation at the workstation:

- Wrists are straight, shoulders are relaxed.
- Wrists are extended beyond 15°.

Tick the corresponding box(es) if the following also apply:

- Wrists are deviated while typing.
- Keyboard too high. Shoulders are shrugged.
- Reaching to overhead items.
- Keyboard platform is non-adjustable.

- **Keyboard duration of use.** Select one of the buttons to specify the daily duration of keyboard use:

- Less than 30 minutes continuously or less than 1 hour per day
- Between 30 minutes and 1 hour continuously or between 1 and 4 hours per day

- More than 1 hour continuously or more than 4 hours per day
- **Mouse.** Select one of the buttons to specify the existing situation at the workstation:
  - Mouse is in line with the shoulder.
  - Reach to mouse / mouse not in line with the shoulder.

Tick the corresponding box(es) if the following also apply:

- A pinch grip is required to use the mouse / the mouse is too small.
- The mouse and keyboard are at different surfaces.
- Hard palm rest or pressure points on the hand while mousing.
- **Mouse duration of use.** Select one of the buttons to specify the daily duration of mouse use:
  - Less than 30 minutes continuously or less than 1 hour per day
  - Between 30 minutes and 1 hour continuously or between 1 and 4 hours per day
  - More than 1 hour continuously or more than 4 hours per day

**Assessments**

General data A - Chair B - Monitor and Telephone C - Keyboard and Mouse Results

assessment 8 of 8

**KEYBOARD**

Wrists are straight, shoulders are relaxed.
  Wrists are deviated while typing.
  Keyboard too high. Shoulders are shrugged.
  Reaching to overhead items.
  Keyboard platform is non-adjustable.

Duration of use: Less than 30 min continuously or less than 1 h per day  
 Between 30 min and 1 h continuously or between 1 and 4 h per day  
 More than 1 h continuously or more than 4 h per day

**MOUSE**

Mouse in line with the shoulder.
  Reach to mouse / mouse not in line with the shoulder.
  Pinch grip required to use mouse / mouse too small.
  Mouse and keyboard on different surfaces.
  Hard palm rest / pressure point while mousing.

Duration of use: Less than 30 min continuously or less than 1 h per day  
 Between 30 min and 1 h continuously or between 1 and 4 h per day  
 More than 1 h continuously or more than 4 h per day

Figure 8. Assessment form – C – Keyboard and Mouse

**Results** (Figure 9). Once the workstation coding has been completed, the assessment results are displayed in the last tab. To do this, the software assigns a series of intermediate scores to the coded items and finally obtains the so-called ROSA score, which represents the task risk.

The screenshot shows the 'Assessments' window with the 'Results' tab selected. It displays the following scores and calculations:

- Section A (Chair):**
  - Seat pan height: 1
  - Seat pan depth: 1
  - Armrests: 1
  - Back support: 1
  - Score A: 2
- Section B (Monitor and Telephone):**
  - Screen: 1
  - Telephone: 1
  - Score B: 1
- Section C (Keyboard and Mouse):**
  - Keyboard: 1
  - Mouse: 6
  - Score C: 6
- Intermediate Scores:**
  - Score D: 6 (derived from Score A and Score B)
- Final Results:**
  - ROSA score: 6
  - Risk Level: High

Figure 9. Assessment form – Results

Specifically, the following procedure is applied:

- Enter the Chair data
  - Obtain the seat height score
  - Obtain the seat depth score
  - Obtain the armrest score
  - Obtain the back support score
- Obtain Group A score using a table (Seat height score + Seat depth score × Armrest score + Back support score)
- Obtain Score A by adding the Group A score + Chair duration of use.
- Enter the Monitor data + Monitor duration of use = Screen score.
- Enter the telephone data + Telephone duration of use = Telephone score.
- Obtain Score B using a table (Screen × Telephone).
- Enter the keyboard data + Keyboard duration of use.

- Enter the mouse data + Mouse duration of use.
- Obtain Score C using a table (Keyboard × Mouse).
- Obtain Score D using a table (Score B × Score C).
- Obtain the ROSA score using a table (Score A × Score D).
- Interpret the Action Level associated with the ROSA score.

In each scoring cell, in addition to the current value, a small box displays the maximum possible value for that cell. This information is intended to assist in possible workstation redesign.

Depending on the ROSA score, four possible risk levels are considered, each associated with a specific Action Level indicating the urgency of ergonomic intervention (the need to implement actions to reduce risk), as shown in the following table.

<b>ROSA Score</b>	<b>Action Level</b>	<b>Interpretation of the Action Level</b>
1	Very low	Acceptable situation
2-4	Low	Situation may require changes; further assessment is recommended.
5-7	High	Task redesign is required soon.
8-10	Very high	Immediate task redesign is required.

## REPORT AND RECCOMENDATIONS

By clicking the **Report** button at the bottom of the main window of this module, a window is opened that allows certain report features to be configured (Figure 10). Depending on the selected options, the report will display different types of information.

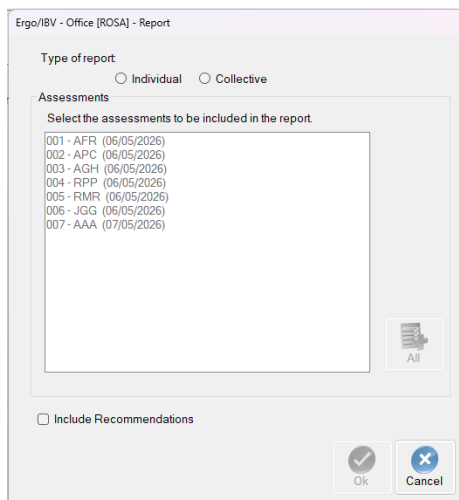


Figure 10: Office [ROSA] – Report

The report configuration window contains the following options:

- **Type of report.** Select whether an *individual* report is required (to obtain risks and recommendations for a specific workstation) or a *collective* report including several questionnaires from the same case (to obtain statistics of the questionnaire responses from all selected workstations).
- **Assessments.** Displays a list of the questionnaires available in the current case (identified by the worker’s name or acronym and the questionnaire date), from which the questionnaires to be included in the report must be selected.

- If the individual report type is selected, the software highlights the active questionnaire in the list to facilitate selection.
  - If the collective report type is selected, multiple questionnaires may be selected. To add or remove questionnaires from the selection, hold down the <Ctrl> key while clicking on the questionnaires with the mouse. Clicking the **All** button selects the entire list.
- 
- **Include recommendations.** Tick this box if ergonomic improvement recommendations based on the detected risks should be included in the report. This option is only available for individual reports.

Once the configuration has been selected, clicking the Accept button opens the requested report.

## REPORT – Individual

The different sections included in an individual report for this module are as follows:

- **Identification.** Includes the general data of the workstation analysed: assessment date, workstation, company, evaluator's observations, and the worker's name/acronym.

Figure 11. Office [ROSA] – Individual Report Detail: Header and Identification

- **Results.** Presents the assessment results. It includes:
  - **Risk factors.** The assessment of the different method sections (chair, monitor, telephone, keyboard and mouse) in relation to the overall risk level. This is expressed as a saturation percentage (the extent to which each section is close to its maximum score).
  - Task risk: ROSA Score, Risk Level and interpretation (Action Level).

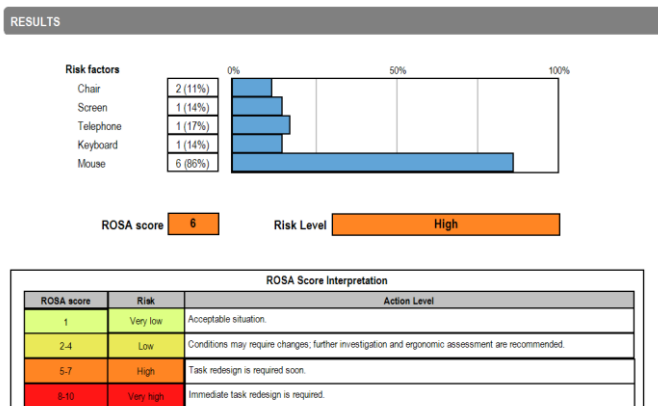




Figure 12. Office [ROSA] – Individual Report Detail: Results

- Assessment detail.** Includes the detailed description of the workstation analysis, covering all items coded in the ROSA questionnaire, the associated intermediate scores and the final ROSA score (including the maximum possible value for each cell), as well as the risk and action levels.



**Ergo/IBV**  
Ergonomic risk assessment

Office [ROSA]



RISK ASSESSMENT REPORT - Individual

ASSESSMENT DETAILS

Section A	Section B	Section C
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>SEAT PAN HEIGHT</b>            Knees at 90° <span style="float: right;">1</span>            Insufficient legs space <input type="checkbox"/> Non adjustable <input type="checkbox"/> <span style="float: right;">5</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>SEAT PAN DEPTH</b>            Proper clearance behind the knees <input type="checkbox"/> Non adjustable <input type="checkbox"/> <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ARMRESTS</b>            Elbows well supported at 90° <input type="checkbox"/> Hard / Damaged <input type="checkbox"/> Non adjustable <input type="checkbox"/> <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>BACK SUPPORT</b>            Adequate lumbar support <input type="checkbox"/> Work Surface too high <input type="checkbox"/> Non adjustable <input type="checkbox"/> <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">           Table A <span style="float: right;">2</span>            +            Chair Duration of use <span style="float: right;">0</span>            =            Score A (Chair) <span style="float: right;">2</span> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MONITOR</b>            Monitor well positioned <span style="float: right;">1</span>            Neck twisted <input type="checkbox"/> Glare <input type="checkbox"/> <span style="float: right;">5</span>            No holder <input type="checkbox"/> Screen too far <input type="checkbox"/> +            Monitor Duration of use <span style="float: right;">0</span>            Monitor score <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>TELEPHONE</b>            Phone nearby, Good posture <input type="checkbox"/> No neck and shoulder hold <input type="checkbox"/> No hands-free option <input type="checkbox"/> <span style="float: right;">1</span>            +            Telephone duration of use <span style="float: right;">0</span>            Telephone score <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">           Score B (Monitor + Telephone) <span style="float: right;">1</span> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>KEYBOARD</b>            Wrists straight <span style="float: right;">1</span>            Deviation while typing <input type="checkbox"/> Keyboard too high <input type="checkbox"/> <span style="float: right;">5</span>            Reaching overhead items <input type="checkbox"/> Platform non adjustable <input type="checkbox"/> +            Keyboard duration of use <span style="float: right;">0</span>            Keyboard size <span style="float: right;">1</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MOUSE</b>            Reaching to mouse <input type="checkbox"/> Mouse pinch grip <input checked="" type="checkbox"/> Mouse and keyboard at different heights <input checked="" type="checkbox"/> <span style="float: right;">6</span>            Hard palm rest <input checked="" type="checkbox"/> +            Mouse duration of use <span style="float: right;">0</span>            Mouse score <span style="float: right;">6</span> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">           Score C (Keyboard + Mouse) <span style="float: right;">6</span> </div>
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>ROSA score</b>  <span style="border: 1px solid black; padding: 5px; font-weight: bold; font-size: 1.5em;">6</span>  <small>10</small> </div> <div style="text-align: center;"> <b>Risk Level</b>  <span style="background-color: #FF8C00; color: white; padding: 5px; font-weight: bold;">High</span> </div> </div> <div style="margin-top: 10px; text-align: center;"> <b>Action Level</b> <span style="border: 1px solid black; padding: 5px; display: inline-block; min-width: 200px;">Task redesign is required soon.</span> </div>		

Figure 13. Office [ROSA] – Individual Report: Workstation Detail

- **Recommendations.** If this option has been selected, recommendations are included, grouped by section, to help correct the problems detected.

The screenshot shows a report header with the Ergo/IBV logo and 'Office [ROSA] RISK ASSESSMENT REPORT - Individual'. The 'RECOMMENDATIONS' section is titled 'Mouse' and contains the following text:

- It is recommended to place the mouse close to the keyboard and within the normal reach area of the hand, so that it can be used without excessive arm extension or moving the shoulder forward or outward. The mouse should be positioned approximately aligned with the shoulder and as close as possible to the keyboard, allowing work with the elbow close to the trunk and the forearm in a natural position. This arrangement helps avoid awkward arm and shoulder postures and reduces muscular strain during prolonged mouse use.
- It is recommended to use a mouse of a size and shape appropriate to the user's hand, allowing the palm to rest on the device and enabling movement using the forearm, avoiding the need to grip it with a pinch grip using the fingers. A mouse that is too small may increase strain on the fingers, hand and forearm during prolonged use. It is preferable to choose an ergonomic mouse that fits the hand size, allows the wrist to remain in a natural position and facilitates comfortable use without requiring awkward movements or grips. In some cases, it may also be useful to try different types of mice (for example, larger models or ergonomic designs) to find the most suitable option for the user and the type of task being performed.
- The mouse should be positioned on the same horizontal plane as the keyboard in order to avoid shoulder strain and arm elevation.
- It is recommended to use a wrist rest with a padded surface and without hard edges, allowing gentle support of the base of the hand without creating pressure points. A wrist rest that is too rigid or worn may cause discomfort in the palm of the hand and increase pressure on the tissues during prolonged mouse use. The support should be used mainly during pauses or between movements, avoiding continuously resting the weight of the hand on it while moving the mouse. In addition, it is important to keep the wrist in as neutral a position as possible, aligned with the forearm.

Figure 14. Office [ROSA] – Individual Report: Recommendations.

## REPORT – Collective

The different sections included in a collective report for this module are as follows (Figure 15):

- **Identification.** Includes the general data of the case: workstations analysed, company, evaluator's observations, and the number of assessments analysed. An image may also be included, common to the whole case.
- **Assessments analysed.** Presents a list of the analysed assessments included in the collective report. The list is shown as a table including: worker's name/acronym, workstation name, assessment date and evaluator's observations.
- **Results.** Presents a table with the results of the assessments analysed. It includes:
  - Assessment identification number

- Risk factors. The assessment of the different method sections (chair, screen, telephone, keyboard and mouse) in relation to the overall risk level. This is expressed as a saturation percentage (the extent to which each section is close to its maximum score).
- Workstation risk: ROSA Score and Risk Level

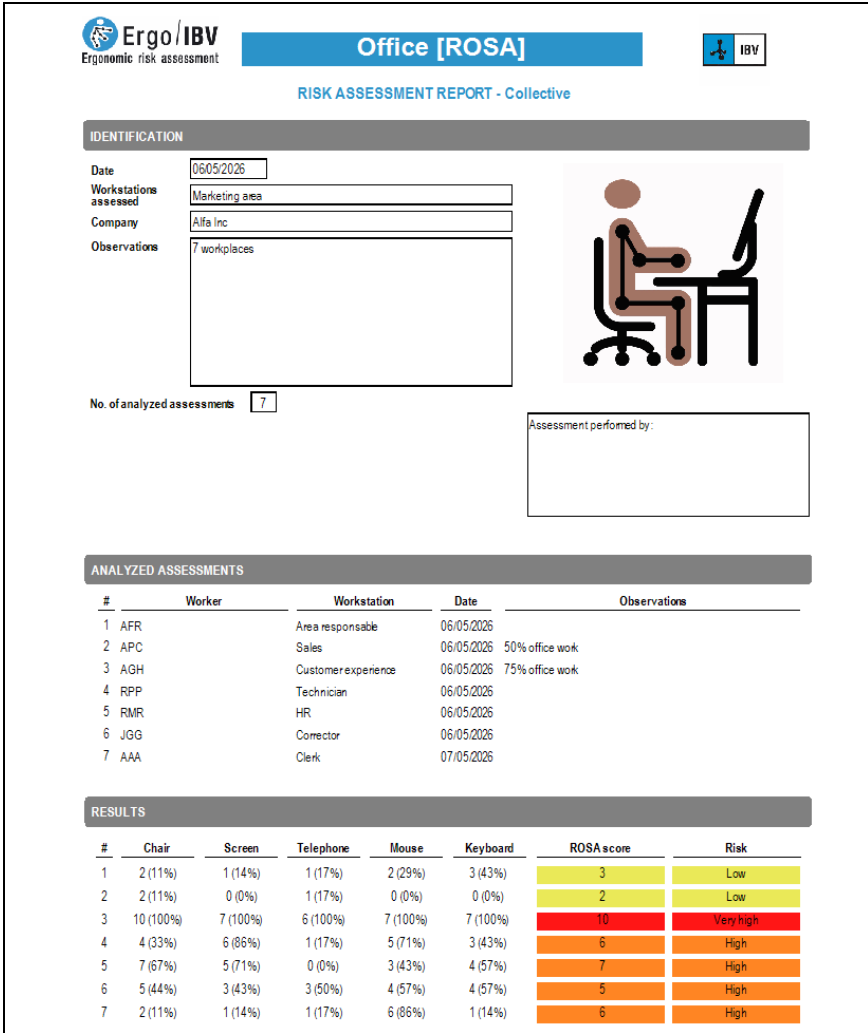


Figure 15. Office [ROSA] – Collective Report.