

# ERGOPAR

A participative ergonomics procedure to address occupational risks

## Summary of the ERGOPAR Method Version 2.0 (2014)



Developed by:



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**This document was developed by ISTAS.** The original Spanish version was financed by the Spanish Foundation for the Prevention of Occupational Risks. It is available at: <http://ergopar.istas.net/recursos/>

## What is participatory ergonomics?

**ISTAS defines participatory ergonomics as** a strategy for the improvement of working conditions based on ergonomic principles. This strategy is structured and arranged to allow the active participation of stakeholders involved in the process. Its ultimate goal is to improve working conditions and prevent musculoskeletal disorders.

## Why is it necessary to address ergonomic risks and musculoskeletal disorders?

Work-related musculoskeletal disorders (MSD) are the primary cause of sick leaves in many companies. Workers are affected by pain, decreased production capability and wage reduction. For companies, MSD imply dysfunctional production patterns and economic loss.

The prevention of MSD must be a priority issue in companies with affected workers. **Main risk factors of MSD include biomechanical aspects.** Working conditions that demand the adoption of forced postures, repetitive movements, manual weight handling, exposure to mechanical vibrations and similar conditions have a high probability of leading to MSD. However, biomechanical factors are not the only causes of MSD. Psychosocial risk factors (work organization); environmental aspects (temperature, lighting, noise, etc.) and multiple individual variables (age, sex, etc.) interact with biomechanical conditions and may cause or worsen MSDs.

## Reasons to implement participative ergonomics at workplaces

Participative ergonomics offers a variety of advantages both for workers and employers. They include:

- ▶ Promoting the **participation of different stakeholders** in companies for the improvement of working conditions
- ▶ Addressing one of the occupational risk categories with most significant impact on workers' health and well-being, and preventing exposure which is **one the main** among workers
- ▶ Identifying and addressing risk situations without the need of **complicated technical protocols**
- ▶ Promoting **integration in companies' preventive policies** and facilitating the development of preventive culture

## Our proposal: ERGOPAR Method

ERGOPAR is the result of a research, development and validation process. This participative ergonomics project involved researchers, ergonomists, occupational health and safety professionals, employers' and workers' representatives.

### What is ERGOPAR?

**ERGOPAR Method is a participative procedure focused on the prevention of work-related ergonomic risks.** ERGOPAR is designed to:

- Identify exposure to ergonomic risk factors and determine causes of exposure
- Propose the best preventive measures to eliminate or at least reduce risk situations
- Implement and follow-up of the implemented measures to ensure a continuous improvement

### Goals

ERGOPAR's goal is twofold:

- ▶ **Continuous improvement of working conditions from the standpoint of ergonomics** through an implementation that will eliminate or at least reduce exposure to risk factors, and
- ▶ **Facilitating the participation of workers**, their representatives and other stakeholders involved in the preventive process in a company

These goals must be common to all participants.



## Specifications

ERGOPAR implies **key differences regarding the traditional preventive practices** in Spanish companies.



These basic pillars integrate into in the procedure tools and technical aspects to facilitate company's access to information and corresponding proposals, according to the conditions of analyzed work places. This approach allows the planning and implementation of effective preventive measures to address ergonomic risks and prevent MSD.

ERGOPAR main characteristics include:

- ▶ **Possibility of application in any company, work place or sector of activity**
- ▶ Promotion of **compliance with health and safety regulation**. ERGOPAR promotes and includes in its procedures workers' rights information, consultation and participation, directly or through their representatives
- ▶ Creation of an autonomous working team made up by stakeholders (social partners)
- ▶ Demand for the participation of workers who have direct involvement and first-hand workplace experience
- ▶ **The health and safety committee is responsible for decision-making** (in companies with less than 50 employees, decisions are made jointly by the work council and the health and safety reps)
- ▶ Proposal for the continuity of the method as a **strategy for continuous improvement**

## Advantages of ERGOPAR

- ▶ Integrating expertise and experience of workers directly involved in the process
- ▶ Generating **participative patterns and skills that remain active in the company**
- ▶ Facilitating the development of proposals for **preventive measures adapted to the real and circumstances of the company and workers' needs**
- ▶ Allowing **flexibility and adaptation to different business contexts**
- ▶ Encouraging the **acceptance of preventive measures**
- ▶ **Expediting the implementation of preventive measures**
- ▶ **Management's direct involvement in the preventive process becomes perceptible**
- ▶ Promoting the **improvement of labour relations** (through compliance with workers' and representatives' rights)

**Results of ERGOPAR implementation in three companies from different sectors** (ceramics, textile and chemistry) in Spain

- Improvement of **participation, communication and information** processes in the companies
- Improvement of **ergonomic conditions** (reduction of physical demands at workplaces)
- Reduction of **work-related physical disorders**
- Increase of workers' and managers' **interest in ergonomics and in the preventive process**
- **Increased productivity**

## Implementation ERGOPAR Method

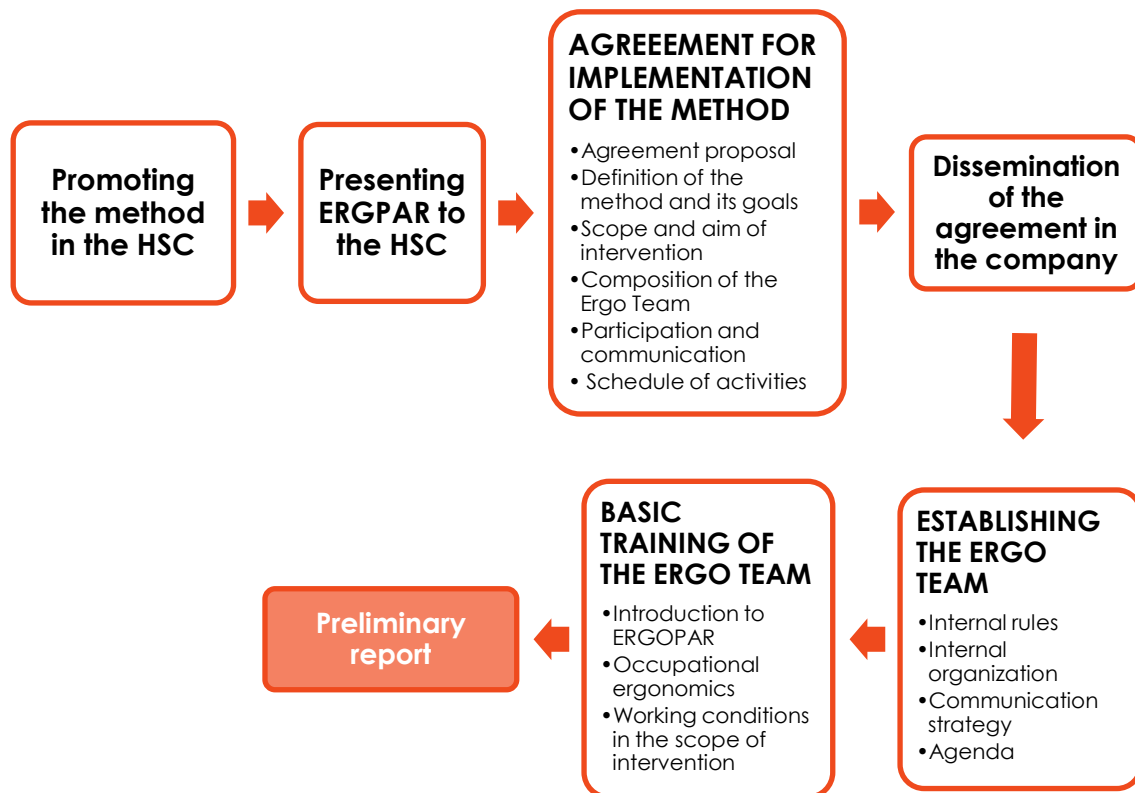
The following table includes a series of **steps for the implementation** of ERGOPAR, from the preliminary phase (prior to intervention), through intervention, assessment and continuity.

The intervention phase entails 3 of stages, each with multiple tasks to be executed. The central column includes the tasks of each phase of the procedure. The right column defines tasks performers, which may be either the Health and Safety Committee or the Ergo Team (working team).

Phases and tasks of the ERGOPAR method			
Phase	Task	Who is responsible?	
<b>PRELIMINARY PHASE</b>	Task 1. Promoting the method as preliminary action	Promoter in the Health and Safety Committee	
	Task 2. Presentation of the method ERGOPAR	Tutor in the Health and Safety Committee	
	Task 3. Formalizing the agreement to implement ERGOPAR	Health and Safety Committee	
	Task 4. Establishing the working team (Ergo Team), definition of methodology and development of preliminary actions	Ergo Team	
	Task 5. Training the Ergo Team on ergonomics and working conditions in the intervention scope		
	Task 6. Drafting a preliminary report prior to intervention		
<b>INTERVENTION PHASE</b>	<b>Stage 1: Identification and analysis</b>	Task 7. Preparing the questionnaire and planning its distribution, filling in and collection	Ergo Team
		Task 8. Developing a planning agreed upon the questionnaire	
		Task 9. Registration of questionnaires and generation of resulting documents	
		Task 10. Identifying causes of exposure to predominant risk factors	
		Task 11. Drafting the identification and analysis report	
	<b>Stage 2: Proposal and planning</b>	Task 12. Planning the creation of preventive circles	Ergo Team
		Task 13. Development of preventive circles to define preventive measures	
		Task 14. Drafting a report on proposals and planning implementation	
	<b>Stage 3: Follow-up</b>	Task 15. Defining, planning and implementing preventive measures	Health and Safety Committee
		Task 16. Monitoring the implementation of preventive measures	Ergo Team
		Task 17. Assessing the efficiency of implemented measures	
Task 18. Drafting of the follow-up report			
<b>ASSESSMENT AND CONTINUITY PHASE</b>	Task 19. Assessment of results and definition of continuity strategy	Health and Safety Committee	

## Preliminary phase

The preliminary phase (prior to the **intervention phase using ERGOPAR Method**) includes steps that are essential for the future viability of the process and its results. These preliminary steps will create the adequate context for intervention phase. The following graphic illustrates the tasks of the preliminary phase:



Implementation requires a **formal agreement** in the Health and Safety Committee which calls for:

- ▶ Meeting with the health and safety committee and with **potential stakeholders** to present the method and achieve a commitment
- ▶ **Choosing a scope of intervention**, i.e.: work places to be analyzed. It is recommended to conduct a pilot experience in a reduced scope of intervention (2-3 work places)
- ▶ Appointing the members of the **Ergo Team**

The Health and Safety Committee will draft the **terms of the agreement** to obtain the support of the organization and will make it widely known in the company, especially to workers of work places within the scope of intervention.

This phase will conclude with the creation of the **Ergo Team**. The team must receive basic training for the effective performance of tasks. Group members will use the exchange of knowledge and experiences in their work.



## Responsibility for implementation

The implementation of ERGOPAR requires the creation of a working team (called Ergo Team) of 4-8 members, who will provide guidance and support through all the phases of the participative experience. The Ergo Team will organize and carry out each task and arrange a permanent **communication strategy**.

Ergo Team members should **meet the requirements for different profiles**.

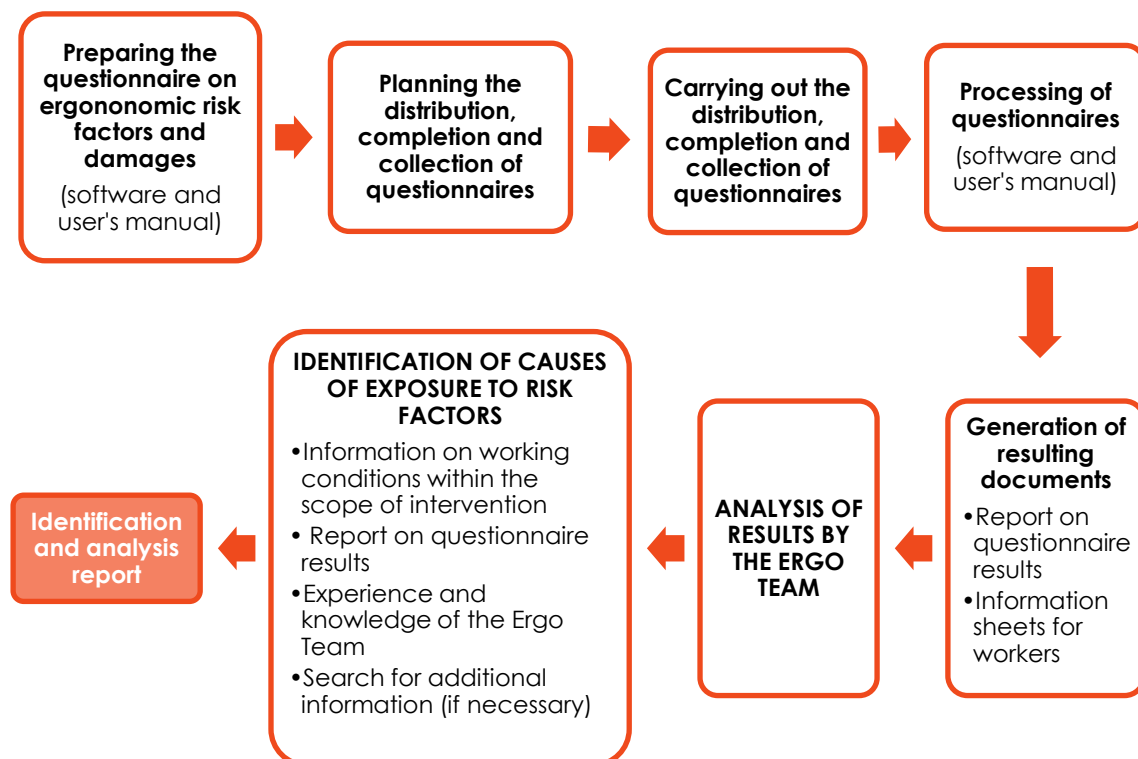
Essential requirements to be met by members of the Ergo Team		
Profile	Requirements	Type of participation
Capability for dialogue with company managers	Direct participation by <b>company management's representatives with decision powers</b> will have a major influence on operational decision-making and on the correct development of procedures	Permanent
Capability for dialogue with workers	<b>Workers representatives'</b> participation is essential. Health and safety reps' participation is more desirable given their specific knowledge of occupational health issues	Permanent
Knowledge about the scope of intervention	Depending on the scope of intervention the procedure will require <b>workers with in-depth or basic knowledge about the chosen work places</b>	Permanent/ occasional
Knowledge of ERGOPAR	The <b>method's tutor</b> will be the leader of the team during the implementation of procedures through direct participation in working and training sessions	Permanent
Knowledge of occupational health and safety/ ergonomics	Direct participation of <b>occupational health and safety professionals</b> will be necessary during a significant part of the procedure given the training and information needs required by the team	Permanent / occasional

Regardless of permanent or occasional involvement, **all the members of the Ergo Team must have access to the same information**.

ERGOPAR establishes as a necessary precondition for the creation of the Ergo Team that the profiles that involve **capability for dialogue with company managers and workers must be covered by the same number of members to guarantee an exact parity between stakeholders**.

## Identification and analysis of ergonomic risk situations

ERGOPAR's **identification and analysis tasks** (in the intervention phase) seek to detect exposures to ergonomic risk factors, predominant damages in the scope of intervention and subsequently to identify causes of exposure to such risk factors. The tasks related identification and analysis of risk factors are described in the following diagram:



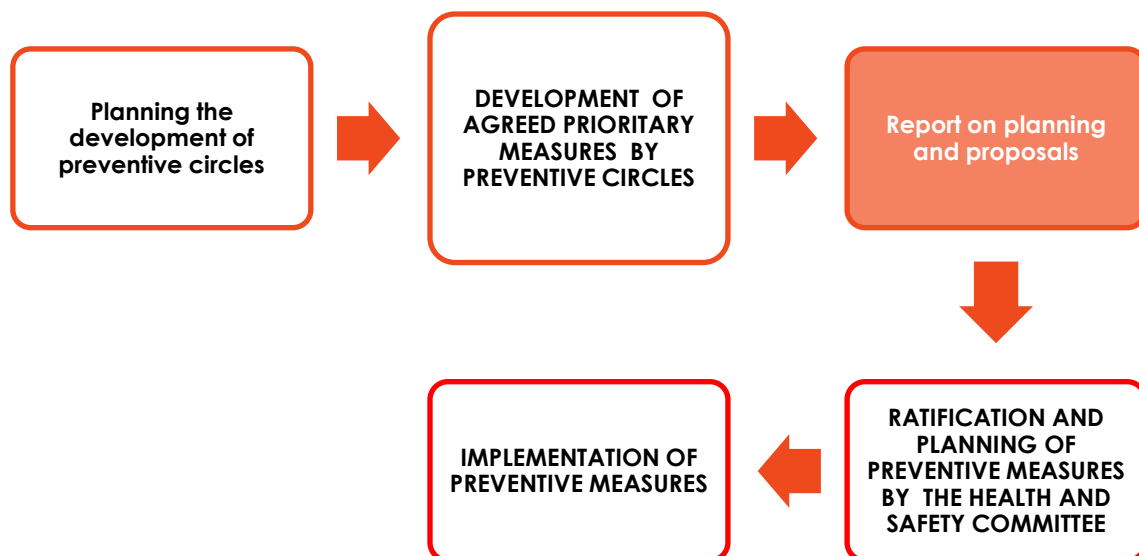
ERGOPAR provides the necessary **tools** to obtain valuable information for identification and analysis:

- ▶ **An individual, voluntary questionnaire with guaranteed confidentiality** will be used for the **identification of ergonomic risk factors and predominant damages** (it will be mainly focused on biomechanical risk factors). Specific ERGOPAR software and user's manual will allow:
  - adapting and generating the questionnaire on ergonomic risk factors and damages
  - data registration
  - generating a report on the questionnaire's results
  - generating information sheets for workers
  
- ▶ **For the identification of causes of exposure to predominant risk factors the Ergo team will use two work sheets.** If the Ergo Team cannot identify all the causes of exposure, **search for additional information** will be required (discussion groups, observations and if necessary an assessment of ergonomic risks).

This is a most important stage in the whole procedure. Proposed preventive measures will depend largely on the information generated during this stage. A poorly developed awareness and information campaign, or an inadequate completion of the questionnaire might produce unrealistic/unrepresentative information and therefore compromise the successful development of the participative experience.

## Proposing preventive measures and planning their implementation

The stage that involves **proposing and planning preventive measures** intends to develop a proposal for priority preventive measures, based on a consensual approach, to eliminate or at least reduce ergonomic risk situations (risk factors and causes of exposure). This will eventually lead to an agreement on planning and implementation of measures. The following diagram describes the tasks to be carried out during this stage:



ERGOPAR provides several **tools** to achieve these goals:

- ▶ **A series of guidelines for the development of preventive circles** that will be used during the selection of preventive measures. (Preventive circles are spaces for group consultation in which participants express their views through a series of questions proposed by a moderator)
- ▶ **Work sheets** to be used during the development of proposals for preventive measures and their prioritization
- ▶ **Planning sheets** to be used during the planning of preventive measures. These sheets must be included in the planning of preventive actions developed by the company

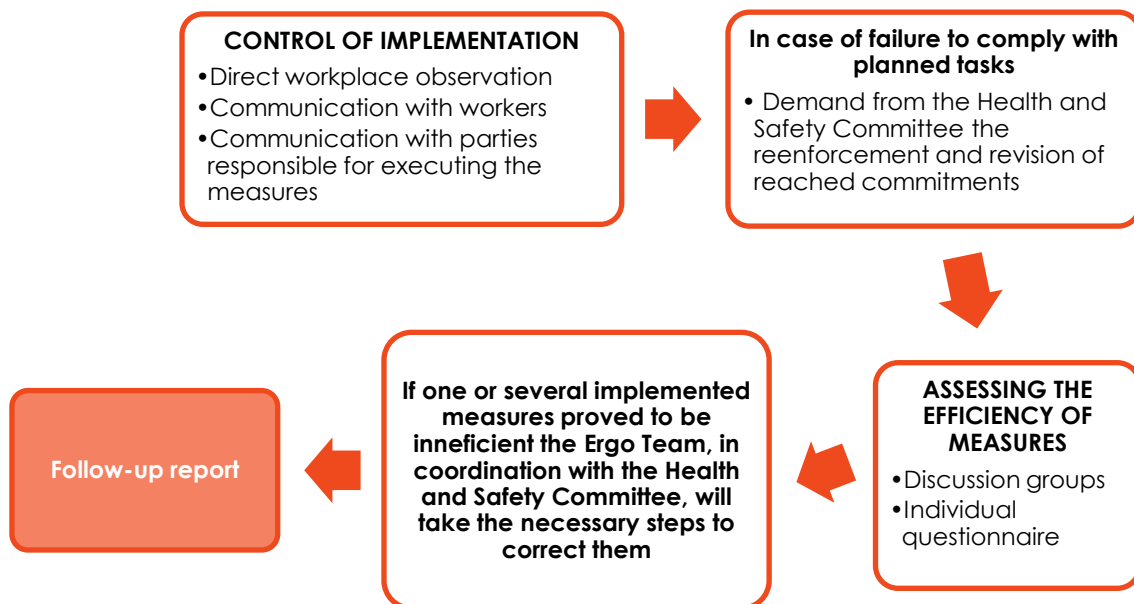
**The goals of preventive circles include:**

- ▶ Confirming if priority risk factors and causes identified by the Ergo Team are in line with workers' views, and complete them if necessary
- ▶ Reaching a consensual agreement on preventive measures for each task
- ▶ Establishing a priority for the measures (packages of measures) agreed during the preventive circles meetings

**The Ergo Team** will forward the agreed proposals **to the Health and Safety Committee**. As of that moment, the Health and Safety Committee must ratify, programme and implement preventive measures. The elimination of ergonomic risks at source will be a priority goal.

## Monitoring preventive measures and assessing their efficiency

**The goal of the follow-up stage** is twofold. Firstly, it intends to control the timely and correct planning of the preventive measures for each work place, as agreed in the Health and Safety Committee. Secondly, it will assess the effectiveness of implemented measures and if necessary correct such measures to ensure continuous improvement. The following diagram describes the tasks to be performed during this stage:



The Ergo Team and the Health and Safety Committee must always be aware of the fact that the main goal of ERGOPAR is the continuous improvement of ergonomic working conditions through the implementation of preventive measures. That goal can only be achieved if all proposed measures are implemented and if they prove to be effective.

## Steps to be taken when preventive measures prove ineffective

If one or several implemented measures proved to be ineffective, the Ergo Team in coordination with the Health and Safety Committee will adopt solutions to correct the situation and achieved the planned goals.



Follow-up and efficiency assessment involve a continuous cycle of improvement that must ensure the adoption of effective preventive measures against ergonomic risks. Even if the adopted measures are effective, periodic monitoring of working conditions will still be required to assess their efficiency and verify that no new risk situations have emerged.

Last but not least, during the **assessment and continuity** phase the Health and Safety Committee will assess the results of the participative experience using ERGOPAR, and determine whether its implementation in the company must continue or not.

If the experience develops satisfactorily and proves beneficial for the company, actors involved in the process will be more likely to value it positively and approve its continuity. This will allow the Ergo Team and the rest of participants to benefit from the acquired experience. The whole process will integrate in the company both as a valuable resource and as a **strategy for continuous improvement**.

## Additional information on ERGOPAR Method

The website [ergopar.istas.net](http://ergopar.istas.net) includes the full ERGOPAR 2.0, additional information on methodology, references used to develop the ERGOPAR Method, downloadable resources to support the supervision of the method in companies, the software and user's manual, as well as some participative experiences. The website also features access to useful tools for implementation in companies and pertaining information to familiarize users with this resource. (These resources are only available in Spanish language).

The manual for ERGOPAR 2.0 seeks to provide guidance and facilitate the implementation and development of specific tasks required by this method. It is a free resource for any person/company wishing to improve ergonomic conditions at work based on a participative approach.

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