

**The fitness for the job or activity: what the occupational physician should consider
in the occupational examination**

La aptitud para la función o actividad: lo que el médico del trabajo debe considerar en el examen ocupacional

A aptidão para a função ou atividade: o que o médico do trabalho deve considerar no exame ocupacional

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Abstract

Occupational Medicine has established itself as an interdisciplinary specialty dedicated to the protection and recovery of occupational health. In Brazil, its trajectory is marked by milestones such as Decree No. 1,313/1891, the PCMSO (Occupational Health Medical Control Program), and the National Policy on Workers' Health. This study aimed to reflect on the essential premises and technical criteria that occupational physicians should consider in assessing occupational fitness. This reflection is based on the author's experience and a manual review of the MEDLINE/PubMed database (2025), using specialized descriptors and evidence from the last decade. Technological transformations and labor precarization impose new challenges. The definition of fitness must surpass the classic care model, integrating anamnesis with task analysis and risk management. The complexity of the physician-worker relationship in the pre-employment examination is highlighted, where the fear of rejection can compromise the reliability of the information. It is concluded that the effectiveness of Occupational Health depends on a thorough assessment focused on human dignity. It is imperative to modernize legislation and strengthen specialized training to guarantee healthy environments and preserve health in the face of environmental risks.

Descriptors: Occupational Medicine; Physical Fitness; Medical Examination; Occupational Health; Occupational Diseases.

Resumén

La Medicina del Trabajo se ha consolidado como una especialidad interdisciplinaria dedicada a la protección y recuperación de la salud ocupacional. En Brasil, su trayectoria está marcada por hitos como el Decreto No. 1313/1891, el PCMSO (Programa de Control Médico de la Salud Ocupacional) y la Política Nacional de Salud de los Trabajadores. Este estudio tuvo como objetivo reflexionar sobre las premisas esenciales y los criterios técnicos que los médicos del trabajo deben considerar al evaluar la aptitud ocupacional. Esta reflexión se basa en la experiencia del autor y en una revisión manual de la base de datos MEDLINE/PubMed (2025), utilizando descriptores especializados y evidencia de la última década. Las transformaciones tecnológicas y la precarización laboral imponen nuevos desafíos. La definición de aptitud debe ir más allá del modelo clásico de atención, integrando la anamnesis con el análisis de tareas y la gestión de riesgos. Se destaca la complejidad de la relación médico-trabajador en el examen preempleo, donde el temor al rechazo puede comprometer la fiabilidad de la información. Se concluye que la efectividad de la Salud Ocupacional depende de una evaluación exhaustiva centrada en la dignidad humana. Es imprescindible modernizar la

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legislación y reforzar la formación especializada para garantizar entornos saludables y preservar la salud frente a los riesgos ambientales.

Descritores: Medicina del Trabajo; Aptitud Física; Examen Médico; Salud Ocupacional; Enfermedades Ocupacionales.

Resumo

A Medicina do Trabalho consolidou-se como especialidade interdisciplinar dedicada à proteção e à recuperação da saúde laboral. No Brasil, sua trajetória é balizada por marcos como o Decreto n.º 1.313/1891, o PCMSO e a Política Nacional de Saúde do Trabalhador e da Trabalhadora. Objetivou-se refletir sobre as premissas essenciais e os critérios técnicos que o médico do trabalho deve considerar na avaliação da aptidão ocupacional. Reflexão fundamentada na experiência do autor e na revisão manual da base MEDLINE/PubMed (2025), com o uso de descritores especializados e evidências da última década. As transformações tecnológicas e a precarização laboral impõem novos desafios. A definição de aptidão deve superar o modelo assistencial clássico, integrando a anamnese à análise das tarefas e ao gerenciamento de riscos. Ressalta-se a complexidade da relação médico-trabalhador no exame admissional, onde o receio de reprovação pode comprometer a fidedignidade das informações. Conclui-se que a efetividade da Saúde Ocupacional depende de uma avaliação criteriosa, focada na dignidade humana. É imperativo modernizar a legislação e fortalecer a formação especializada para garantir ambientes saudáveis e preservar a saúde diante dos riscos ambientais.

Descritores: Medicina do Trabalho; Aptidão Física; Exame Médico; Saúde Ocupacional; Doenças Ocupacionais.

Introduction

Occupational Medicine is a medical specialty dedicated to the protection, promotion, and recovery of worker health, considering occupational risks and workplace conditions. Its origins are intrinsically linked to industrial advancements, transformations in work organization, and the growing need to preserve the workforce. The historical trajectory of this discipline reflects not only technical and scientific development but also the political, social, and economic transformations that have occurred from the Industrial Revolution to the present day¹.

Historically, the first observations on the relationship between work and illness date back to antiquity. Later, in the Modern Age, Bernardino Ramazzini, recognized as the "father of Occupational Medicine," published, in 1700, the work *De Morbis Artificum Diatriba*, in which he described pathologies associated with various occupations and recommended that doctors inquire about their work activity². This publication inaugurated a more scientific and observational approach to occupational health problems, influencing future generations of professionals. However, the consolidation of Occupational Medicine effectively occurred with the Industrial Revolution, between the 18th and 19th centuries, driven by increased working hours, precarious working conditions, and the high incidence of accidents and occupational diseases³.

In the following century, after the great world conflicts, the relationship between work and health gained greater prominence among governments and international organizations. In 1919, the creation of the International Labour Organization (ILO) and the establishment of standards on occupational health, safety and working conditions represented an institutional milestone in the defense of workers' rights⁴. Over time, the ILO expanded the scope of occupational health, incorporating physical and

mental well-being, the prevention of occupational diseases, self-care, and the promotion of healthy and safe work environments. In this context, Occupational Medicine established itself as an interdisciplinary field, involving not only medical professionals but also safety engineers, psychologists, and other health specialists^{3,5}.

In Brazil, the history of Occupational Medicine is marked by institutional, legislative, and scientific advancements. The process began with Decree No. 1,313 of 1891, which regulated occupational health, including provisions on occupational medicine and safety⁶. In the following years, Occupational Medicine was boosted. The creation of Fundacentro (Jorge Duprat Figueiredo Foundation for Occupational Safety and Medicine) in 1966 and the regulation of the Occupational Health Medical Control Program (PCMSO), through Regulatory Standard No. 7 (NR-7), became fundamental measures for the implementation of systematic actions to promote and monitor health in work environments^{7,8}. With the 1988 Federal Constitution, the right to health and dignity at work was guaranteed as a fundamental principle, reinforcing the integration between public health and occupational health, notably with the implementation of the Unified Health System (SUS) and the National Policy on Workers' Health (PNSTT)⁹.

Occupational Health and Safety (OHS) legislation is one of the main instruments for protecting the physical and mental well-being of workers, reflecting how society organizes and recognizes labor rights over time. The evolution of regulations is directly related to industrial development, worker mobilization, and transformations in production relations, thus becoming an essential part of public social protection policies³. In Brazil, labor legislation began in the 19th century, within the context of the transition from slave labor to wage labor. The first relevant



regulation on worker protection emerged with Decree No. 1,313/1891, which established obligations related to hygiene and safety in factories. However, it was with the Consolidation of Labor Laws (CLT), enacted in 1943, that a systematized legal framework was structured, incorporating the regulation of aspects related to occupational medicine and safety⁶.

With the 1988 Federal Constitution, worker health came to be recognized as a fundamental right, establishing the State's responsibility in formulating public policies for the promotion, protection, and recovery of occupational health¹⁰. The 1990s are marked by the consolidation of the set of Regulatory Standards (NRs), approved by the Ministry of Labor through Ordinance No. 3,214/1978¹¹. These standards detail the mandatory technical requirements to ensure the safety and health of workers in various economic sectors. Key examples include NR-5, which establishes the Internal Commission for Accident Prevention (CIPA); NR-6, related to Personal Protective Equipment (PPE); NR-7, which regulates the PCMSO (Occupational Health Medical Control Program); and NR-9, which establishes the Environmental Risk Prevention Program (PPRA)⁸.

With the advancement of technologies and social changes in the organization of work, the legal framework for occupational safety and health has undergone significant updates. Starting in 2019, the Brazilian government began a process of reviewing and simplifying the Regulatory Standards (NRs), to bring the standards closer to the national reality and encourage voluntary compliance by companies¹². In parallel, the National Policy on Workers' Health (PNSTT), established by Ordinance No. 1,823/2012 and updated in 2018, aims to integrate workers' health actions into the Unified Health System (SUS), promoting intersectorality and strengthening worker health surveillance. The PNSTT guides the actions of the Workers' Health Reference Centers (CEREST), which play a strategic role in the notification, analysis, and prevention of work-related health problems⁹.

Internationally, Brazil is a signatory to several ILO conventions, which serve as normative references for the implementation of occupational safety and health policies. Among them, Convention No. 155, which addresses the safety and health of workers, and Convention No. 161, related to occupational health services, stand out; both have been ratified by the country and incorporated into the legal system⁴.

In the context of Occupational Medicine, the medical history is a fundamental step in the clinical

examination, playing a central role in assessing the worker's fitness for specific tasks. This practice consists of a detailed interview, conducted by the occupational physician, with the purpose of collecting information about the worker's health history, including their lifestyle, family illnesses, and possible exposures to environmental and occupational hazards¹³. In occupational health examinations, particularly pre-employment examinations, a focused medical history allows for the early identification of health problems, as well as the assessment of the compatibility between the worker's health condition and the demands of the intended job. This integrated and individualized analysis is crucial for medical decision-making¹².

According to the PCMSO (Occupational Health Medical Control Program), the clinical examination should consider the occupational risks identified in the work environments, such as psychosocial aspects, ergonomics, work schedule, equipment use, and cognitive demands. The examination is complemented, when necessary, by laboratory or imaging tests⁷. In high-risk occupations, such as machine operators, professional drivers, workers at heights, or in hazardous environments, this assessment becomes even more rigorous. At the end of the process, the doctor issues the Occupational Health Certificate (ASO), indicating whether the employee is fit or unfit to perform the reported function¹⁴.

Thus, anamnesis, combined with a thorough clinical evaluation and knowledge of specific occupational risks, establishes the basis for promoting safe and healthy work environments. Its practice must be adjusted in light of social changes, contributing to the effectiveness of occupational health actions and to the fulfillment of the principles of dignity and the value of human work, an aspect that will be explored in more detail in this opinion article.

Methodology

This specialized reflection is based on the prior premises that the occupational physician must consider in the occupational examination. The analysis integrates fundamental theoretical concepts, the author's professional experience, and scientific evidence manually selected from the MEDLINE/PubMed database on October 29, 2025. The search employed the descriptors: "Occupational medicine," "Physical fitness," "Medical examination," "Occupational health," and "Occupational diseases," according to the strategy detailed in Chart 1.

Chart 1. Search strategy developed for the databases. Ribeirão Preto, SP, Brazil, 2025

MEDLINE via PubMed	
Search	
1	((("Occupational Health"[MeSH] OR "Occupational Medicine"[MeSH] OR "Occupational Diseases"[MeSH] OR "Saúde Ocupacional"[tiab] OR "Medicina do Trabalho"[tiab] OR "Doenças Ocupacionais"[tiab] OR "Occupational Health"[tiab] OR "Occupational Medicine"[tiab] OR "Occupational Diseases"[tiab])) AND ((("Physical Fitness"[MeSH] OR "Physical Endurance"[MeSH] OR "Aptidão Física"[tiab] OR "Physical Fitness"[tiab] OR "Physical Condition"[tiab] OR "Physical Endurance"[tiab]) OR ("Physical Examination"[MeSH] OR "Medical Examination"[MeSH] OR "Exame Médico"[tiab] OR "Physical Examination"[tiab] OR "Medical Examination"[tiab] OR "Occupational Health Services"[MeSH]))



The inclusion criteria comprised original articles, editorials, letters to the editor, and literature reviews published in the last 10 years, without language restrictions, with translation provided when necessary. Studies that did not meet these criteria were excluded. After manual investigation and initial screening of titles and abstracts, works dealing with the topic of occupational examination were submitted for full-text reading. The extracted information was incorporated into the discussion, consolidating the author's arguments and experience into a cohesive technical analysis.

Results and Discussion

In recent years, Occupational Medicine in Brazil has faced new challenges, notably due to technological transformations, the precariousness of labor relations, and the demands imposed by remote and digital work. The COVID-19 pandemic, for example, highlighted the vulnerability of various occupational groups and the urgency of rethinking strategies for protecting worker health¹⁵.

The latest international conference, held in Geneva on September 16, 2021, revealed alarming data: occupational diseases and injuries were responsible for the deaths of 1.9 million people in 2016. According to the first joint estimates from the World Health Organization (WHO) and the International Labour Organization (ILO), contained in the report "WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury, 2000-2016: Global Monitoring Report", most work-related deaths resulted from respiratory and cardiovascular diseases¹⁶.

In this context, the importance of an interprofessional approach and the integration between health surveillance and health promotion actions become increasingly relevant¹⁷. Recent studies point to the need to strengthen the training of professionals in Occupational Medicine, invest in risk monitoring technologies, and increase worker participation in health and safety decisions¹⁴. Expanding the reporting of work-related health problems and incorporating occupational health indicators into information systems are considered fundamental strategies for advancing the field in Brazil and worldwide¹⁸.

In summary, the history of Occupational Medicine, in its international and national contexts, reveals a continuous process of reshaping, driven by social demands, transformations in the world of work, and struggles for decent working conditions. Understanding this trajectory is essential for comprehending the current and future challenges of occupational health, as well as for consolidating practices that guarantee the physical, mental, and social well-being of workers.

Throughout years of practice in Occupational Medicine, it has become evident that physicians working in the field (examining physicians and beginning occupational physicians) demonstrate difficulty in approaching occupational examinations. This stems, in part, from the classical clinical background of many professionals and the lack of consolidation of specific concepts on the part of occupational physicians newly entering the specialty.

The first point of relevance lies in understanding the doctor-worker relationship in the context of the pre-employment occupational health examination. At this initial stage, a classic relationship of trust is not established, since the worker is evaluated by a specialist not chosen by him, with the purpose of obtaining an Occupational Health Certificate (ASO) that attests to his fitness for the job. The possibility of failing, which could jeopardize the job, can generate distrust, omission of relevant information, or actions on the part of the worker aimed at passing, since he may not understand that a possible "failure" is intended to preserve his health.

The second relevant point is that the occupational examination is not limited to verifying the presence or absence of complaints or to ascertaining clinical alterations. In the occupational examination, it is imperative to analyze whether the candidate meets the requirements of the tasks, and whether there is no exposure to differentiated risks for themselves or for third parties. In other words, defining fitness for a given activity or function is not simplistic. The occupational physician must analyze the detailed description of each task, the physiological and psychosocial demands of the work, verify the worker's clinical conditions and pre-existing diseases, and evaluate the risks listed in the Risk Management Program (RMP), whether they are neutralized, mitigated, or controlled, to then define fitness.

A worker who performs loading and unloading of cargo, for example, who is asymptomatic and without musculoskeletal functional limitations, but has a well-documented herniated disc, may be considered unfit for the job in a company that does not adequately control ergonomic risk. However, the same worker will be considered fit in another company that has effective control of the respective risk (through carts, electric pallet jacks, electric conveyors, casters, breaks). Proper analysis of activities and occupational risk is fundamental and does not align with the simple presence or absence of complaints reported in the occupational examination. The occupational examination model, therefore, does not resemble the classic healthcare model that occurs in a doctor's office or in health plans.

Conclusion

The primary function of the PCMSO (Occupational Health Medical Control Program) is to preserve and protect the worker's health. In this context, defining work fitness requires a comprehensive analysis that considers the prescribed work and its actual execution, the characterization of occupational risks, and the respective management strategies adopted by the organization. It is also fundamental to assess the worker's clinical conditions and the presence of pre-existing diseases. To support this decision, various pieces of information must be extracted from the Risk Management Program (PGR), the ergonomic report, and the analysis of the work organization itself, which may be supplemented by data collected from the company's Human Resources department. In this process, a thorough anamnesis is indispensable, as is the interface between the examining physician, the physician responsible for the



PCMSO, and the safety engineering department, aiming for a reliable analysis of the work context and the inherent risks. Finally, the very definition of occupational risk, based on

probability and severity, must be rigorously considered by the physician responsible for conducting the occupational examination.

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