



OccuZone



NATIONAL INSTITUTE FOR
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service

MENTAL HEALTH:

THE OCCUPATIONAL HEALTH CHALLENGE OF OUR TIME

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Editorial team: Ms Zinhle Mapumulo | Mr Vuyo Sabani | Prof. Nisha Naicker | Dr Kerry Wilson | Dr Monica Young | Ms Thato Malesa | Ms Bonolo Masoka | Mr Msingathi Magwaxaza

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Zinhle Mapumulo

MESSAGE FROM THE EDITOR

As we navigate an increasingly complex and demanding world of work, mental health has emerged as one of the most pressing occupational health challenges of our time. This edition of OccuZone shines a spotlight on mental health in the workplace, recognising that employee wellbeing is central not only to productivity and organisational resilience, but also to human dignity and decent work.

Across sectors, workers are facing growing psychosocial pressures driven by high workloads, long working hours, job insecurity, workplace stress, burnout, sedentary lifestyles, and rapidly evolving work environments. The impact of these pressures extends beyond the workplace, affecting families, communities, and national economies. As highlighted in this issue, mental health is no longer a peripheral wellness topic – it is a critical occupational health and safety priority.

Professor Nisha Naicker explores the current state of research on workplace mental health and highlights important gaps in understanding occupational mental health risks, particularly among vulnerable and under-researched worker populations. The article underscores the need for stronger surveillance systems, context-specific research, and integrated workplace interventions.

We also feature insights from the National Institute for Occupational Health (NIOH) webinar on Mental Health at Work,

hosted by the Occupational Medicine Section. The discussions during the webinar reinforced the urgent need to integrate mental health into occupational health and safety risk management.

Dr Jalees Razavi's thought-provoking contribution, *The Anatomy of Burnout*, reframes burnout as a predictable occupational outcome tied to sustained exposure to excessive demands and inadequate recovery, rather than an individual weakness. Complementing this article, Ms Bonolo Masoka explores the powerful role of active microbreaks in improving employee wellbeing, reducing stress, and mitigating the health effects of prolonged sedentary work.

This issue also features our regular NIOH research publications, which cover occupational health challenges ranging from artisanal mining and occupational allergies to engineered nanomaterials and workplace cancer risks. These studies continue to highlight the importance of research in informing workplace policy, prevention, and worker protection.

As workplaces continue to evolve, so must our approaches to protecting workers' health. We hope this edition encourages organisations, practitioners, policymakers, and workers to prioritise mental wellbeing and create healthier, safer, and more supportive work environments for all.

Take care. Till next time!



Prof. Nisha Naicker

RESEARCH FOCUS

Research has consistently identified mental health as a key determinant of employee wellbeing, safety, and productivity. Work-related conditions such as stress, anxiety, depression, and burnout are increasingly recognised as consequences of psychosocial workplace hazards, which include high workloads, low job control, poor organisational support, job insecurity, workplace violence, bullying, and poor leadership.¹

Globally, mental wellbeing is critical for sustainable development. Approximately 15% of working-age adults experience a mental disorder, with depression and anxiety contributing to around 12 billion lost workdays annually and costing the global economy an estimated US\$1 trillion in productivity losses.²

Despite a growing body of research in this area, significant research gaps remain.³ Evidence is largely drawn from a few formal sector workers, such as health care workers, with a limited understanding of informal and precarious employment, where job insecurity and unstable income may increase vulnerability. There is also an imbalance across occupations, with little research on high-risk sectors such as mining, construction, agriculture, and transport.^{4,5} In these male-dominated sectors, stigma may discourage disclosure and help-seeking, further limiting

access to support; however, in South Africa, the evidence is limited.



Methodological limitations are also a key factor. The research conducted is often prevalence studies using a cross-sectional study design. This does not provide data on the understanding of long-term outcomes, cumulative stress exposures, and causal relationships. Evaluations of workplace interventions, such as Employee Assistance Programmes are also limited, and evidence suggests that individual-focused interventions are insufficient if workplace psychosocial risks are not addressed.⁶

South Africa also lacks comprehensive occupational mental health surveillance systems. There are no standardised national indicators, limited data on absenteeism and presenteeism, and weak integration of mental health into occupational health information systems. In addition, economic evidence on productivity losses and the cost-effectiveness of interventions remains scarce, limiting informed policy and investment decisions.

The above gaps, although not comprehensive, indicate that current research does not fully capture the diversity of occupational mental health risks or the complex interactions among them in the workplace.

The NIOH has contributed to strengthening the evidence base through ongoing research on occupational stress, depression, anxiety, and psychosocial risk management as well as webinars addressing mental health in the workplace. For publications and other resources on this topic from the NIOH, please contact Information Services at info@nioh.ac.za

Workplace mental health is a critical component of occupational health and safety. While the Occupational Health and Safety Act (OHSA) of South Africa⁷ provides a strong legal foundation, further research is needed, particularly on vulnerable workers, the effectiveness of interventions, surveillance systems, and context-specific evidence to support effective policy and practice. Strengthening these areas will improve employee well-being, productivity, and organisational resilience.

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RESEARCH PUBLICATIONS



Prof. Muzimkhulu Zungu

Stakeholder perceptions of a workplace-based screening programme for artisanal and small-scale miners in Zimbabwe.

Author(s): Malhotra, A. M.; F Kavenga, F.; Ncube R. T.; Madziva, G.; Moyo, F.; Chigaraza, B.; Marambire, E.; Kasozi, S.; Timire, C.; Calderwood, C. J.; Nyambo, A.; Ndlovu, K.; **Zungu, M.**; and Moyo, D.

Source: Occupational Medicine, 2026; kqaf119, <https://doi.org/10.1093/occmed/kqaf119>

Summary: Artisanal and small-scale miners (ASMs) experience high prevalence of disease, notably tuberculosis (TB), human immunodeficiency virus (HIV), silicosis, sexually transmitted infections, substance misuse, and mercury and cyanide toxicity. Despite this, targeted healthcare interventions are limited.

Aims: To explore the perceptions of ASMs and their leaders/representatives in relation to a five year targeted health screening intervention for ASMs in Zimbabwe. Screening included TB, HIV, and silicosis. Insights were also gathered from healthcare staff, academics and national stakeholders involved in the project.

Methods: Focus-group discussions (FGDs) were conducted with 31 participants (13 ASMs and ASMs' representatives, 6 healthcare staff and academics, and 12 representatives from national organisations). Participants were asked to reflect on their experience and understanding of health screening activities for ASMs, as well as what further healthcare activities are required.

Results: Artisanal and small-scale miners found the screening activity beneficial. Fear and stigma were the main barriers to healthcare access during initial implementation; however, this was alleviated through collaboration with ASMs leadership and peer-officers. Health priorities identified for future healthcare activity included development of a health-screening checklist for ASMs, strengthening access to information, decentralisation of occupational health services and addressing a greater package of health. Cross-collaboration between the mining sector, the ministry of health and childcare and other national stakeholders was identified as a priority.

Conclusions: Targeted health screening and care is needed for this neglected and vulnerable group. The workplace screening offered a model to address this, however, more work is needed to ensure that ASMs in other locations and with additional health priorities are reached.



Ms Munyadziwa Muvhali

Occupational allergic conjunctivitis associated with kelp exposure in a seaweed-processing plant

Author(s): Ngajilo, D.; Adams, S.; Singh, T.; Muvhali, M.; and Jeebhay, M.F.

Source: Health SA Gesondheid 30(0), a2940. <https://journals.co.za/doi/10.10520/ejc-caci-v38-n3-a6>

Summary: Ecklonia maxima, also known as sea bamboo, is a type of brown seaweed (kelp) that is widely used in aquaculture and in making products such as plant growth regulators. Health problems affecting the lungs from seaweed exposure have been reported before, but eye problems related to work exposure have not. This report describes a case of an office worker at a kelp-processing plant who experienced repeated eye symptoms over two years that were linked to exposure to kelp and its products at work.

Methods: The patient underwent eye examinations and allergy testing. These tests included skin-prick tests for common allergens and kelp, patch testing, and blood tests for kelp-specific IgE antibodies. A workplace visit was carried out to assess possible exposures. Additional tests included sinus CT scans, lung function tests, screening for autoimmune disease, and a biopsy of the cornea.

Results: The patient was diagnosed with work-related allergic conjunctivitis caused by exposure to kelp. This diagnosis was supported by the patient's work history, eye symptoms that worsened at work, and positive allergy tests to fresh kelp. The workplace assessment identified possible exposure to airborne kelp particles and to irritating chemicals, including hydrogen peroxide and acetic acid.

Conclusion: This case suggests that kelp can cause work-related eye allergies, mainly presenting as conjunctivitis. The condition appears to involve both IgE-related and non-IgE allergic mechanisms and may be worsened by exposure to irritating chemicals. The findings highlight the need for more research into how kelp causes eye allergies and which specific components are responsible in workplace settings.



Dr Charlene Andraos

Human Health Risk Assessment During the Synthesis and Application of Engineered Nanomaterials in a Controlled Laboratory Environment

Author(s): Letsoalo, M.; Masekameni, M. D.; Andraos, C.; and Gulumian, M.

Source: *Toxics* 2026, 14, 277 <https://www.mdpi.com/2305-6304/14/4/277>

Summary: Inhaling engineered nanomaterials is a primary health concern because these tiny particles can travel deep into the lungs, potentially leading to serious medical issues. This study evaluated the risks faced by workers during the production and use of materials like silver, gold, and carbon-based nanotubes. By monitoring air quality in real-time, researchers found that silver and gold particles frequently exceeded established safety limits, while other materials like carbon nanotubes remained within safer ranges. Even for newer materials like graphene, which do not yet have official safety standards, the data suggests potential health risks similar to those of better-known substances. These findings highlight that the concentration of these materials in the air is the most critical factor in determining a worker's risk. Ultimately, the study emphasises the importance of continuous air monitoring and proactive safety strategies to protect individuals from the long-term effects of nanoparticle exposure.

Lung-deposited surface area concentration during the synthesis of silver and gold nanoparticles, as well as with the application of gold nanoparticles on electrodes in academic and research laboratories.

Author(s): Letsoalo, M.; Masekameni, M.; Andraos, C.; and Gulumian, M.

Source: *J Nanopart Res* (2026) 28:98 <https://doi.org/10.1007/s11051-026-06617-x>

Summary: Research indicates that the synthesis and application of silver and gold nanoparticles pose unique occupational health risks. Due to their microscopic size and high surface area, these particles can bypass the natural filters of the body and settle deep within the respiratory system. This study evaluated air quality in a controlled laboratory, measuring how many particles are emitted during production and use. While silver concentrations remained within safe operational limits, gold nanoparticles frequently exceeded recommended safety thresholds, depending on the specific task and the sensitivity of the monitoring equipment used. A significant concern raised by the findings is that most of these particles are predicted to reach the deepest parts of the lungs, where the body cannot easily clear them. This suggests a potential for the particles to enter the bloodstream and accumulate in vital organs, highlighting a critical need for standardised monitoring and enhanced protective measures to prevent long-term health complications for workers.



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NIOH RESEARCH DAY 2026

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Mental Health: The bottom line in the workplace

By Dr Nompumelelo Ndaba
and Sr Goitsimang Buffel



The Occupational Medicine Section of the NIOH hosted a webinar titled “Mental Health at Work” earlier this year. The webinar was aimed at practitioners across different workplaces who are involved in planning, coordination and management roles within the fields of occupational medicine, occupational health and safety, Employee Assistance and Wellness programmes. The objective of the webinar was to equip practitioners in workplaces with the knowledge and skills required to protect and promote good mental health in the workplace using occupational health principles and prevention of untoward mental health effects.

The topics covered in the session included an overview of the extent of mental health challenges, and the alignment of workplace mental health with decent work principles, policy frameworks and specific regulations, specifically in the South African context.

Furthermore, presentations focused on the development and implementation of workplace mental programmes as well as contextualising the spectrum of mental health conditions encountered in the world of work. The latter highlighted the evolving approach to the subject, shifting from a narrow focus on mental health disorders to a broader understanding of various mental health conditions. The final session of the webinar covered topics particularly encountered mostly in occupational

health clinical settings, namely medical surveillance, screening tools used in the workplace, and compensation for work-related mental health disorders in South Africa. The final session for the day was on Employee Assistance Programmes, focusing on what is available, scope of services offered in different settings, return on investment and involvement of various practitioners in the workplace beyond the clinic.

The World Health Organization (WHO) defines mental health at work as “a state of mental wellbeing that enables people to cope with life’s stressful moments, develop their skills, learn and work well, and contribute to the betterment of the community.”¹

Globally, the burden of mental health at work is a critical crisis requiring urgent attention, according to the WHO and the International Labour Organization (ILO).² While the prevalence of mental health disorders in the adult working population is estimated to be 15%, an increase in general anxiety and depression of up to 25% was observed especially following the COVID-19 pandemic.³ The key drivers of this crisis include psychosocial risk factors in the workplace.³ Although the ILO highlights five of these as main drivers namely, stress, long working hours, exposure to harassment, effort-reward imbalance, and job insecurity, a workplace mental health ecosystem is illustrated below in Figure 1, showing how these factors are interlinked in the different

spheres.⁴ Poor mental health at work has a direct negative impact on employee well-being, productivity, safety, and overall company performance.⁵ In addition, the figure below maps the modern workplace

mental health ecosystem, illustrating how external contractual strains, cultural dynamics, and daily task structures collide to shape employee wellbeing.



The modern workplace mental health ecosystem, [Adapted from the World Health Organization and International Labour Organization. (2022). Mental health at work: policy brief. Geneva: World Health Organization]

The South African Federation of Mental Health estimated that 67% of South Africans were employed as of October 2024.⁶ This puts the workplace in a position where it is a critical setting for supporting mental health. Mental health in South African workplaces is increasing at an alarming rate, with over 36% of employees reporting high stress/burnout and a 24% increase in reported work-related mental health issues by late 2024.⁷

Preventing these adverse effects at work involves primarily managing psychosocial risks. The WHO recommends that employers do this by implementing organisational interventions that directly target working conditions and environments. Workplace occupational health, safety and wellness coordinators, as programme planners should be equipped to respond to the WHO's call for Action towards mental health.

Recognising the key policy and resource gaps in South Africa regarding mental health at work, the country's governance and legislative framework on workplace occupational health safety aligns with the Capitalise Sustainable Development Goals (SDG), particularly SDG 3 (good health) and 8 (decent work).⁵ While most workplace hazards can be identified and categorised into one of the key hazard categories, psychosocial hazards have not been tackled specifically at policy level except through the Ergonomics Regulations (2019) which includes physical hazards, organisational and cognitive hazard identification and assessment.⁸ Assessment of occupational exposure to psychosocial hazards is an important step in preventive efforts and early identification of potential risk of poor mental health at work. Mental health at work is not limited to only focusing on existing mental health disorders at works, but prevention of mental health conditions at large, and should be integrated as part of workplace occupational health and safety risk management approaches.

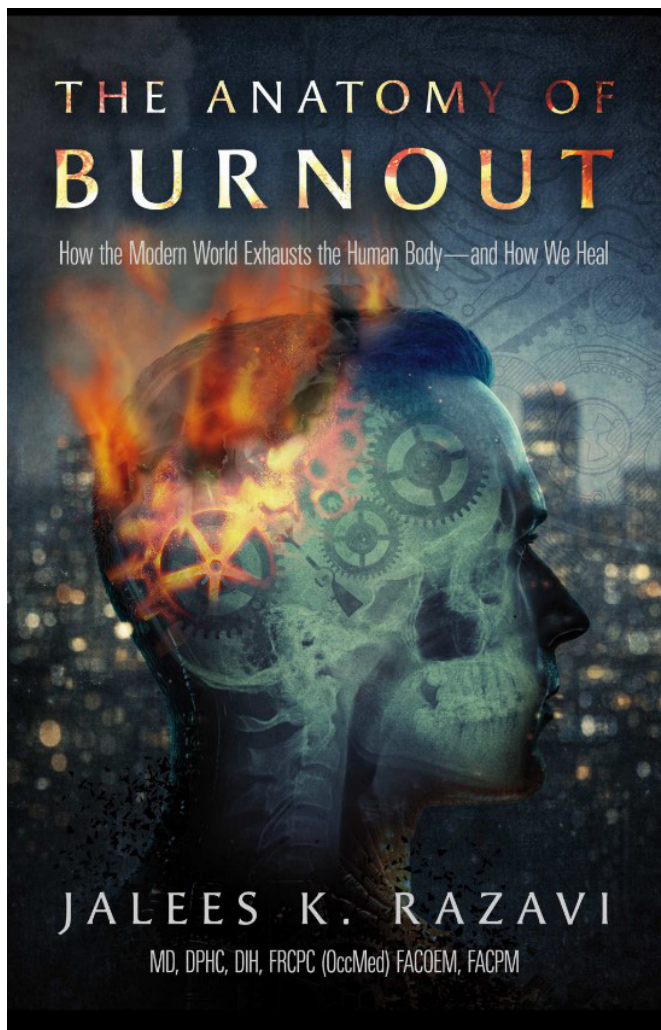
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The anatomy of burnout: an occupational medicine framework



By Dr Jalees Razavi



The *Anatomy of Burnout* is not a self-help publication and does not adopt motivational framing. It is a clinically grounded, systems-level analysis of burnout, written from the perspective of an occupational medicine physician with extensive experience assessing the relationship between work exposures, human physiology, and functional capacity. In general discourse, burnout is described

using broad terms such as stress, fatigue, or disengagement. Within occupational medicine, it is more precisely defined as a predictable outcome arising when cumulative job demands exceed an individual's capacity for physiological and cognitive recovery over time. This work reframes burnout as a consequence of sustained exposure rather than a personal limitation or a primary psychiatric diagnosis. It examines contemporary occupational exposures, including cumulative cognitive load, sustained emotional labour, time compression, moral strain, shift disruption, and administrative burden, and positions them alongside traditional workplace hazards. These exposures are typically unmeasured and not readily visible, yet their impact is cumulative and clinically significant.

For workers, the text outlines the physiological basis of burnout. It describes the effects of inadequate recovery on neuroendocrine function, including disruption of sleep architecture, altered cortisol regulation, cognitive fatigue, emotional exhaustion, and reduced executive capacity. These processes are presented in clear language while maintaining clinical precision. A key distinction is made between normal adaptive stress responses and the sustained physiological dysregulation that characterizes burnout.

For caregivers, including healthcare professionals and individuals engaged in unpaid care, the book addresses the cumulative effect of continuous cognitive



and emotional demand in the absence of proportional recovery. From a physiological standpoint, occupational and non-occupational caregiving loads are equivalent. Chronic exposure without adequate restoration produces consistent downstream effects regardless of setting. The text provides a structured approach to identifying these exposures in a systematic manner.

The framework is based on three principles derived from occupational science. Recognition involves accurate identification of the mismatch between exposure and recovery. Restoration focuses on preservation of biological recovery mechanisms, including sleep integrity, cognitive decompression, and protected time. Redesign addresses the alignment of work demands, expectations, and boundaries with human capacity.

At the individual level, the approach emphasizes objective evaluation of load and recovery. At the organisational level, it positions workforce health as a core structural component of performance and sustainability rather than a supplementary wellness strategy.

This work is intended for occupational health professionals, workers experiencing functional decline without a clear framework, caregivers managing sustained demand, organisational leaders assessing productivity changes, and policymakers concerned with workforce sustainability. Burnout is not addressed as a matter of resilience. It is defined as an occupational signal indicating a mismatch between demand and capacity.

The *Anatomy of Burnout* provides the clinical language, physiological model, and structural framework required to interpret this signal and to support the development of sustainable work practices across sectors and over the working lifespan.

The paperback edition will be published on 5 June 2026. Electronic copies are available through Kindle, iBooks, and other digital platforms, as well as the BookBaby Shop.

ISBN-13: 979-8317834159

Small moves, big impact: how microbreaks boost employee health, wellbeing and mental health

By Ms Bonolo Masoka



In today's "always on" culture, accelerated by the Fourth Industrial Revolution and organisational changes brought about by the COVID-19 pandemic, employees are expected to remain constantly connected and productive^{1,2}. While this technological transformation has created new efficiencies, it has also blurred the lines between work and rest. Many employees now find themselves working in demanding and fast-paced environments where pauses are discouraged, and opportunities for recovery are rare. This dynamic has resulted in a workforce facing high levels of physical strain and emotional stress than ever before, ultimately leading to exhaustion, fatigue, and a decline in overall wellbeing¹.

At the same time, modern work patterns have encouraged increased sedentary behaviour, with many people spending prolonged periods sitting and remaining physically inactive. Extended screen time, desk-based work, and reduced or limited physical movement have become a norm in today's workplace³. Studies show that on average, individuals engage in sedentary behaviours for eight to nine hours a day, with most of this sedentary behaviour occurring in the workplace³. By spending more hours sitting and moving less in the workplace, employees put themselves

at a high risk for developing serious health problems that can affect them for the rest of their lives.

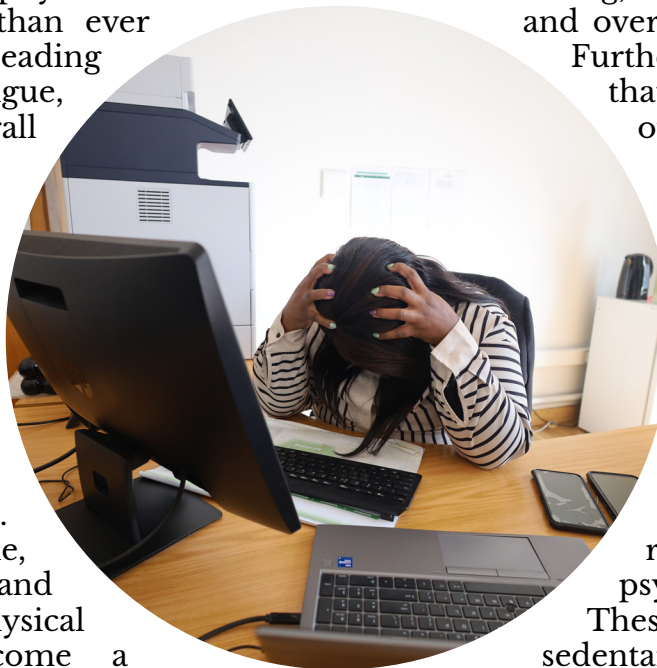
Sitting for long hours has been linked to the development of musculoskeletal disorders of the neck, upper limbs, and lower back, as well as increased risk for diabetes, obesity, cancer, poor circulation, cardiovascular disease, and even premature death³. In addition to the physical effects, sedentary behaviour has been linked with negative mental health issues such as depression, lower cognitive functioning, increased risk of dementia, and overall lower quality of life³.

Further research indicates that prolonged periods of sedentary behaviour may also impact mental wellbeing, particularly among desk-based workers⁴.

Extended sitting, limited physical activity, and high work demands can contribute to increased stress, fatigue, slower recovery, and diminished psychological health⁴.

These issues don't only affect sedentary employees, but also have significant implications for employers, as they result in lost productivity, absenteeism, and increased medical costs.

Given the negative outcomes associated with sedentary behaviour and demanding work, it is essential to implement strategies



that promote health, wellbeing and quality of life during working hours. Among these strategies active microbreaks, such as 15-minute sessions, have been found to be effective in lowering some of these health risks.

Active micro-breaks

Microbreaks are short, planned breaks taken during the workday in which employees interrupt prolonged periods of sedentary behaviour to perform light intensity exercises such as stretching or taking short walks². The purpose of microbreaks is to reduce the time spent sitting, to give employees a chance to re-energize, increase physical activity, improve health, and boost work engagement^{1,2}. Active microbreaks, which

involve dynamic and stimulating activities such as light exercises, stretches, or brief walks, have been recommended in research, as opposed to passive breaks such as simply standing up^{2,5}. Research suggests that active microbreaks should be taken for 5-10 minutes every 40-60 minutes of continuous work⁶, while some experts recommend shorter breaks of 1-3 minutes every 20-30 minutes of sitting or repetitive work³. Most frequently recommended types of active microbreaks include walking, standing calf raises, chair squats, walking upstairs, and dynamic stretching³. In addition, microbreaks that include resting your eyes are also important in avoiding eye strain and fatigue.

Benefits of microbreaks	Practical tips for employees
Active microbreaks, such as walking or stretching have been found to be effective in enhancing mental health and wellbeing by: » Reducing stress levels » Reducing the risk of dosing off at work » Help refocusing attention and reducing mental fatigue » Improving cardiovascular health » Improving work performance and productivity » Increasing job satisfaction and engagement » Reducing musculoskeletal pain and discomfort » Improving cognition, mental health and overall worker wellbeing » Reducing eye strain » Improving mood and social relationships » Improving metabolic and physical functions of the body » Reducing the risk of illnesses and diseases » In addition, microbreaks simultaneously reduce sickness, absenteeism, and injuries from work without impacting employees' productivity ^(1-3, 6)	» Set reminders to take breaks every 30-60 minutes » Perform stretching exercises at your desk » Take short walks to a colleague's office or step outside for fresh air » Take breaks from looking at the screen. Use the 20-20-20 rule, where every 20 minutes, look at something 20 feet (6,1 m) away for at least 20 seconds ⁽⁷⁾. » Stand up when taking calls » Practice breathing to reduce stress » Step away from your desk to hydrate » Organisations and managers can also support employee well-being by actively encouraging microbreaks. Such leadership engagement is important, considering that many employees may still worry that taking breaks might be seen as counterproductive. By normalising and encouraging employees to take regular microbreaks is a simple but powerful step toward improving physical health, mental wellbeing, and workplace performance.



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Breast Cancer and the Workplace

By Dr Kerry Wilson



Breast cancer is the most diagnosed cancer among South African women, with an incidence rate of 52.6 per 100,000 and a mortality rate of 16.1 per 100,000. While established risk factors such as age, reproductive history, and genetics are well recognised, a growing body of evidence suggests that occupation may independently influence not just who develops breast cancer, but who dies from it. A recent national case-control study using South African mortality data from 2011 to 2019 provides the clearest picture yet of which workers face the highest risk - and the findings have direct implications for occupational health practice.

Which workers are at elevated risk?

The study compared over 13,000 breast cancer deaths with nearly 65,000 deaths from non-malignant circulatory disease, adjusting for age, education, province, and smoking status. Using elementary occupations as the reference group, several occupational categories showed significantly elevated breast cancer mortality odds across both study periods.

When sub-occupations were examined for 2011–2015 the period for which this data is available, the associations became even more striking. Legal, social and cultural professionals had over three times the odds of breast cancer mortality compared to elementary workers. Customer service clerks had approximately twice the odds, as did business and administration professionals. Perhaps most unexpectedly, building and related trades workers excluding electricians showed the highest association of all sub-groups examined, with a significant adjusted mortality odds ratio of 8.01, though the wide confidence interval (3.06–20.96) suggests this estimate should be interpreted with caution.

Why might these occupations carry higher risk?

Several workplace mechanisms may explain these patterns. Office-based roles involving prolonged sitting are associated with reduced physical activity and potentially elevated oestrogen levels throughout the menstrual cycle, both of which are recognised breast cancer risk factors. Night shift work - common in healthcare, security, and transport - disrupts circadian rhythms and suppresses melatonin, a pathway that the International Agency for Research on Cancer has identified as a probable breast carcinogen.

Chemical exposures in trades and manufacturing sectors, including pesticides, solvents, and endocrine-disrupting compounds, are also implicated. Associations between breast cancer mortality and several organic solvents, that are commonly encountered in painting, adhesive application, flooring installation, and finishing work have been reported. Psychosocial stress, which is prevalent across many professional and managerial roles, may further modulate hormonal pathways relevant to cancer development.

What should health and safety professionals do?

These findings carry three practical implications for occupational health practice.

- **Physicians incorporate occupational history into health care.** Routine documentation of occupational category and duration of employment should be standard practice. Workers in higher-risk groups — particularly legal, social, and cultural professionals, business and admin professionals, customer service clerks, and building and related trades workers — warrant proactive discussion about breast cancer screening.
- **Promote uptake of screening programmes among working-age women.** The study found that cases were significantly more concentrated in the 40–59 year age band compared to controls, highlighting that breast cancer mortality in working women occurs at economically active ages. Health and safety professionals are well-placed to promote access to clinical breast examination and mammography for women in this age group, particularly those in identified high-risk occupational categories.

- **Advocate for workplace-level primary prevention.** This includes reducing sedentary time through activity breaks and ergonomic interventions, limiting night shift frequency and duration where operationally feasible, ensuring appropriate chemical exposure controls, and creating psychologically safe working environments that reduce chronic stress.
- **A Call to action:** Breast cancer screening in occupational groups at risk of increased mortality should become part of routine medical surveillance. An affordable first step is to increase awareness among at-risk occupations and promote regular self-exams.

Reference

Motlhale M, Ramatsoma H, Maabela T, Wilson K, Naicker N. Occupation and female breast cancer mortality in South Africa: a case-control study. *Int J Environ Res Public Health*. 2025;22:1878. <https://doi.org/10.3390/ijerph22121878>

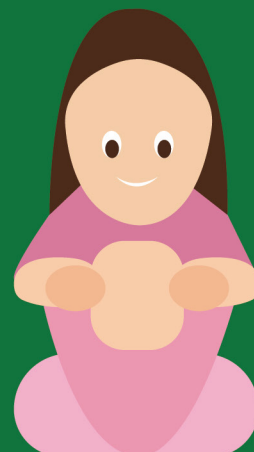




NATIONAL INSTITUTE FOR
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Your Monthly Breast Self-Exam



Early detection is key to preventing breast cancer.

How to Check Your Breasts

1 LOOK

In the mirror, look for any dimpling, puckering, changes in size, shape, or color. Check with arms raised and lowered.

2 TOUCH

Use the pads of your three middle fingers to feel for lumps or thickening in the shower and while lying down. Use light, medium, and firm pressure.

3 CHECK

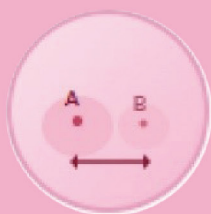
Check for lumps, hard knots, thickened areas, or any changes near the nipple including discharge. Cover the full breast and armpit area.



Warning Signs to Watch For



Lumps, Knots
or Thickening



Changes in
Size, Shape or
Symmetry



Dimpling,
Puckering or
Scaly Skin



Nipple Changes,
Discharge or
Inversion



Persistent Pain
in a Specific
Area



See your doctor if you notice any of these signs.

Don't put it off. Early detection saves lives.

SERVICE DELIVERY

By Dr Monica Young



The Occupational Medicine Section is a specialised section within the National Institute for Occupational Health (NIOH). It comprises of the Occupational Medicine specialised Clinic and Ergonomics Unit. The core mandate of the Section is to create safer workplaces through providing clinical services, workplace risk assessments, research, advocacy, as well as teaching and training of occupational health professionals, work forces, academic institutions and governmental structures. Occupational Medicine Section plays a pivotal role in surveillance of occupational disease trends and in building occupational medicine capacity nationally.

Meet the Occupational Medicine Section Team



From back, Sr Goitsimang Buffel (Nurse Clinical Management), Dr Christel Nagoorsamy (Occupational Medicine Specialist), Dr Mandisa Mulaudzi (Occupational Medicine Registrar), Ms Thato Malesa (Principle Ergonomist), Ms Bonolo Masoka (Ergonomist), Dr Khanyile Saleni (Occupational Medicine Registrar), Mr Jacob Senamolela (Administration Clerk), Dr Mpho Makwela Rakgoale (Centre Head).

Services Offered: Occupational Medicine Specialist Clinic

- » Assessment of patients with suspected occupational diseases
- » Provision of recommendations and advice on the management plan of confirmed cases with occupational disease
- » Offer expert opinion in document case reviews
- » Evaluations of occupational cases for compensation purposes through various Regulators.
- » Expert input to the Medical Bureau for Occupational Diseases Review Authority Committee.
- » Conduct workplace visits in view of understanding work exposures.
- » Determine fitness for work of employees
- » Advocacy of marginalised working force

The various stakeholders that can refer to the Occupational Medicine Specialist Clinic includes:

- » Occupational health professionals
- » Specialist clinics

- » Organised labour;
- » All industry sectors and classifications
- » Current employees and ex-employees
- » Self-referrals
- » Compensation bodies
- » Insurance companies
- » Statutory bodies



Dr Christel Nagoorsamy, providing diagnostic services at the Occupational Medicine Specialist Clinic.

- » Ergonomics practice is regulated under the Occupational Health and Safety Act (OHS Act No.85 of 1993), Section 8, which serves as the primary legislation governing workplace health and safety in South Africa. The Regulation aims to protect workers from ergonomic hazards, musculoskeletal disorders (MSDs) and other health hazards associated with poor workplace designs and practices. Within this regulatory framework, the NIOH Ergonomics Unit is committed to optimising work environments to enhance employee well-being, productivity, and safety, through implementing ergonomic principles and integrating specialised domains of ergonomics across both formal and informal sectors. Additionally, the Unit supports organisations in creating healthier and more efficient workplaces, using a systematic approach to assist organisations to understand the interaction between workers and key elements of the work system, including tasks, tools, technology, the environment, and organisational structures. The Unit collaborates closely with the Occupational Medicine Clinic to support Occupational

Medicine Practitioners by providing expert input regarding workplace exposures as well as collaborating with other practitioners within the occupation health discipline.

Ergonomics services include:

- » Comprehensive industrial ergonomics assessments
- » Office ergonomics risk assessments
- » Vehicle ergonomics risk assessments
- » Fatigue assessments
- » Anthropometric measurements
- » Biomechanical and physical assessments (e.g. posture and forces involved in lifting, lowering, carrying, pushing, and pulling)
- » Evaluation of work-related musculoskeletal discomfort or pain linked to ergonomic risk factors
- » Review of existing risk assessments and control measures to determine effectiveness and compliance
- » Ergonomics education and awareness: teaching & training, and workshops
- » Dissemination of ergonomics material
- » Advisory services

Through these services, the Unit enables organisations to proactively manage ergonomic risks, improve performance, and foster safer, more sustainable working environments.



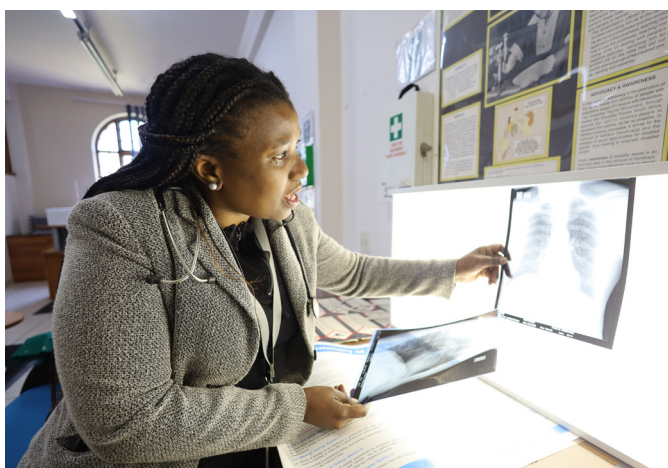
Ms Bonolo Masoka (Ergonomist) conducting workplace ergonomics assessments on site

Teaching and Training

Capacity building remains the core mandate of the NIOH. The Occupational Medicine Section is actively involved in teaching, training, and capacity-building initiatives through participation in formal academic programmes and workplace based professional development activities. These initiatives are aimed at strengthening knowledge, enhancing practical competencies, and promoting evidence based occupational health and ergonomics practices among healthcare professionals, students, and industry stakeholders. Capacity building is essential in ensuring that professionals are adequately equipped to identify, assess, and manage workplace health risks, thereby contributing to improved worker health, safety, productivity, and regulatory compliance. Training services include:

- » Workshops and webinars on occupational medicine and ergonomics
- » Postgraduate student supervision
- » Skills development and knowledge transfer in workplace health risk assessment and management

The section also contributes to the training of MMed (Occupational Medicine) and MMed (Public Health Medicine) registrars, Diploma in Occupational Health candidates,



Dr Nompumelelo Ndaba providing teaching and training

and Masters in Public Health students at several universities.

Networks and membership:

The Occupational Medicine Specialists within the section are registered with the Health Professions Council of South Africa (HPCSA) & South African Society of Occupational Medicine (SASOM) and affiliated with the College of Medicine of South Africa, School of Public Health. Similarly, the clinical nurse specialists are registered with South African Society of Occupational Health Nursing Practitioners (SASOHN.) Ergonomists within the Unit are members of the Ergonomics Society of South Africa (ESSA), with one member of the Unit serving on the ESSA Council. These professional affiliations ensure that the activities and services rendered within the section remains aligned with nationally recognised guidelines and evidence-based approaches within the disciplines.

Value Proposition

The section implements a multidisciplinary approach to collaborate with various stakeholders within the broader NIOH multidisciplinary network-including occupational hygiene, pathology, immunology, and epidemiology specialists. The section aims to generate new evidence on occupational exposures, disease patterns, preventive interventions, and informing best clinical practices which contributes to the development of evidence-based occupational health legislation and national standards.

Cost implications

Fees are applicable for occupational medicine consultations and ergonomic risk assessments. Prospective clients are encouraged to contact the section directly to confirm current tariffs and any applicable exemptions prior to scheduling an appointment.

Contact Details

Please find more information about the services offered by the Occupational Medicine Section and the contact for the NIOH Services Section in this newsletter.



BASIC INTRODUCTION TO EPIDEMIOLOGY AND BIOSTATISTICS 2026

The National Institute for Occupational Health (NIOH) invites interested participants to register for its virtual **Basic Introduction to Epidemiology and Biostatistics Training Course**.

This course is designed for individuals who are new to epidemiology and biostatistics, including researchers, healthcare professionals, surveillance staff, and support personnel. It is suitable for scientists, medical technologists, nurses, doctors, medical researchers, data capturers, project managers, quality assurance personnel, and others interested in understanding the fundamentals of epidemiology and biostatistics.

Course Details

- Dates: 13 - 17 July 2026
- Format: Virtual
- Cost: R1,500 per participant (external attendees)

Please [click here](#) to register.

For more information, please contact JonathanR@nioh.ac.za



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NIOH SERVICES

Section	Services	Contact person
Analytical Services	Analytical Services provides a broad range of users with analytical services expertise in occupational hygiene, biological monitoring, and some clinical laboratory tests.	Head of Section Dr Puleng Matatiele Tel: 011 712 6477 Email: PulengM@nioh.ac.za
Immunology & Microbiology	The Immunology and Microbiology section consists of three units: Occupational Allergy, Waterborne Pathogens and Bioaerosol. The Occupational Allergy Unit provides diagnostic tests to identify workplace agents that cause respiratory and skin diseases. The Occupational Skin Disease Clinic also offers consultations with a dermatologist. Waterborne Pathogens Unit (WBPU) conducts monthly microbiological testing of potable water from workplaces to ensure compliance with the SANS 241 drinking water standard. It also analyses non-potable water samples to ensure they meet microbiological safety standards for their designated occupational use. The Bioaerosol Unit identifies bacteria and fungi in environmental air samples taken from the workplace and performs efficacy testing on air disinfection devices, such as ultraviolet germicidal irradiation (UVGI). In addition, the unit performs risk assessments for Hazardous Biological Agents (HBA) in different workplaces.	Head of Section Ms Edith Ratshikhopha Tel: 011 712 6475 Email: EdithR@nioh.ac.za
Information Services and Training	Archive Documenting and preserving the institutional memory and create access points to the rare and unique information resources showcasing how the institute has evolved over time. These records stretch as far as 1912, they include personal papers, conference papers, registers, obsolete instruments, photographs etc.	Mr Simphiwe Yako Tel: 011 712 6518 Email: simphiwey@nioh.ac.za
Pathology Division	Training laboratory technical staff: The laboratory performs practical training of technical laboratory staff enrolled as medical laboratory scientists, and laboratory technologists in the histopathology discipline.	Ms Busisiwe Mkhonza Tel: 011 712 6519 Email: BusisiweM@nioh.ac.za

Section	Services	Contact person
Toxicology and Biochemistry	United Nations Globally Harmonised System of Classification and Labelling of Chemicals (UNGHS) The Toxicology Department facilitates the UNGHS workshop to train individuals who handle hazardous chemicals in their workplaces in the identification and management of chemical hazards according to GHS classification criteria.	Dr Wells Utembe Tel 0117126741 Email: wellsu@nioh.ac.za
Occupational Medicine	Advisory services Advisory services on the prevention and management of occupational diseases and disorders offered to organizations within the SADC region.	Occupational Medicine Specialist referral clinic: Mr Jacob Senamolela Tel: 011 712 6462 Email: JacobSe@nioh.ac.za
Occupational Hygiene	Occupational Hygiene Training Association (OHTA) Modules The Occupational Hygiene Section is an approved OHTA trainer, and provide training on the following modules: Foundation level: • OHTA201 Basic principles in Occupational Hygiene Intermediate level – core modules: • OHTA501 Measurement of Hazardous Substances • OHTA503 Noise – Measurement and its effects • OHTA505 Control of Hazardous Substances • OHTA507 Health effects of Hazardous Substances Intermediate level – optional modules: • OHTA502 Thermal Environment. • OHTA504 Asbestos and other fibres. • OHTA506 Ergonomics Essentials.	Dr Jeanneth Manganyi Tel: 011 712 6406 Email: JeannethM@nioh.ac.za
Epidemiology & Surveillance	Training and services: Epidemiology and Biostatistics Training: • Basic and Advanced courses. • How to use routine surveillance data to improve the health of workers. • How to use REDCap Protocol development for research on Occupational exposures and Health outcomes. • Development of REDCap tools and other data collection tools. • Research on work exposures and health outcomes in the workplace.	Asanda Jekwa Email: AsandaJ@nioh.ac.za

Section	Services	Contact person
	Services: • Analyses of routine medical surveillance data. • Developing analysis plans for surveillance data. • Literature Reviews on occupational health topics. • Evaluation of Surveillance systems. • Advice and guidance around developing a surveillance system or advice for selecting a service provider for surveillance tools. • Designing or conducting occupational health screening surveys along with staff satisfaction and mental health surveys in your workplace. • Evaluation of training programs in occupational hazards, health and safety.	



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Contact details

25 Hospital Street, Constitution Hill, Johannesburg,
South Africa

PO Box 4788, Johannesburg, South Africa, 2000

Tel : +27 11 712 6400
Fax : +27 11 712 6545 / 6532
Email : info@nioh.ac.za
Web : www.nioh.ac.za